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international developments of educational expenditure

1950-1965

by Friedrich EDDING
and Dieter BERSTECHER

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Berlin

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PREFACE

The series of Unesco Statistical Reports and Studies is designed to examine methodological problems in statistics of education, science and culture, and to analyse development trends in these subject fields.

The present study (No. 14) is an analysis of international trends in educational outlay. It follows earlier Unesco publications on this subject (see: Public Expenditure on Education. A preliminary Analytical Report of the Department of Social Sciences, ST/T/14(I), Paris, June 1955; ST/T/14 (II) (a) and (II) (b), Paris, April 1956. Also: Methods of Analysing Educational Outlay, Unesco Statistical Reports and Studies, No. 11, Paris, 1966). However, the scope of the present study is somewhat larger and the methods of analysis applied are more refined than in the previous studies.

The study analyses statistical data on educational expenditure which have been collected by the Office of Statistics over a period of fifteen years by means of a Questionnaire on educational finance and expenditure. The availability of more reliable and detailed information in recent years enabled the authors to examine expenditure trends for the last five year period (1960-1965) in a more exhaustive way.

It is hoped that the findings of this study will answer a number of questions often raised by educational planners, statisticians and economists working in this field. Particular attention is drawn to Chapter E: " Conclusions for Educational Planning and Policy", and Chapter F: "Summary" in which the major results of the study are formulated.

The authors of the study are Professor Dr. Friedrich Edding, Director at the Institut für Bildungsforschung in der Max-Planck-Gesellschaft, Berlin (who is also the author of the Unesco Statistical Reports and Studies No. 11), and Mr. Berstecher, research assistant at the same Institute. The views expressed are those of the authors and not necessarily those of Unesco.

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base such a selection on generally accepted definitions and measures. If we take the classification used in the World Handbook of Political and Social Indicators (1), we find the countries of our sample distributed in the following way:

	Absolute number	Percentage of sample	Percentage of world total
Group I ("Traditional Primitive" Societies)	-	0	10
Group II ("Traditional Civilizations")	6	17	14
Group III ("Transitional" Societies)	8	23	29
Group IV ("Industrial Revolution" Societies)	14	40	34
Group V ("High Mass-Consumption" Societies)	7	20	13

This grouping clearly points again to a bias in favour of the more modern countries. If data availability, as we said, is a dominant criterion for selection, it seems inevitable that countries should be chosen whose pattern of life includes many other signs of advanced development, among them relatively high expenditure on education.

The data presented and used in this study are provided mainly by the Office of Statistics of the Unesco Secretariat. This office started early in the fifties to send out to Member States questionnaires covering enrolment, teaching staff, expenditure and finance. The first surveys of expenditure developments between 1937 and 1953 were published as manuscripts in 1955 and 1956 (2). Since then data on expenditure were included in many Unesco publications. These figures were not merely listed as reference material for individual countries. They rather invited readers to compare them internationally. Indeed, this is what readers naturally do if they see a table on educational expenditure in various countries, where the expenditure amounts are related to National Income and to population, obviously in order to make these figures more comparable.

Are they comparable? That has been the question raised in many scholarly discussions (3). It leads to another question, namely: For which purposes can comparisons of these expenditure figures be useful? If they are merely used to find out whether public expenditure on education increased or decreased over a period of time, a uniform interpretation of the concept of expenditure might be sufficient for comparability (4). Such comparisons may, for instance, show that countries A, B and C increased public expenditure on education by 30% during a certain period, whereas country D increased it by 50%. This may then invite an investigation of the causes of differences in expenditure growth. Where did the additional outlay go? Had country D a greater increase in the number of students, had it lowered the student/staff ratio, or did the greater increase in country D merely reflect a steeper rise in prices?

If, on the other hand, the purpose of comparison is to find out what the expenditure on education means for the future development of countries, a general warning seems necessary. We shall go into this at some length in Chapter C of this study. Here we only want to state that the figures on expenditure reported to Unesco have even for simple analytical purposes a very variable validity. The Office of Statistics has made an effort to improve the reports and gradually succeeded in inducing more and more countries to observe the standard definitions in filling out the Unesco questionnaires. But by no means all Member States have reached in their returns the desirable coverage and reliability. Many countries are simply not yet in a position to assess these figures in the way required by Unesco. One has to know that and has to have some experience with these reports in order to be able to use the figures given in them to advantage.

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(1) RUSSETT, Bruce M., ALKER, H.R., DEUTSCH, K.W., LASSWELL, H.D. (eds.): World Handbook of Political and Social Indicators, New Haven, London 1965, p. 293 ff.

(2) UNESCO: Public expenditure on education. A preliminary analytical report of the Department of Social Sciences. ST/T/14 (I), Paris, June 1955; (II) (a), April 1956; (II) (b), April 1956.

(3) EDDING, Friedrich: Expenditure on education: statistics and comments. In: The economics of education, proceedings of a conference held by the International Economic Association. E.A.G. Robinson and John E. Vaizey (eds.), MacMillan: London, Melbourne, Toronto; St. Martins Press, New York 1966, pp. 24-70. SVENNILSON, Ingvar, in association with EDDING, Friedrich, and ELVIN, Lionel: Targets for education in Europe in 1970. In: Policy Conference on Economic Growth and Investment in Education. Washington, 16-20 October 1961; Part II, OECD, Paris 1962. EDDING, Friedrich: Methods of analysing educational outlay. In: Unesco, Statistical reports and studies, No. 4, Paris 1966. PALM, Gunter: International comparisons of educational outlay: problems and approaches. In: International Social Science Journal, Vol. XX, No. 1, Unesco 1968, pp. 98-108.

(4) In international comparisons, it is very difficult to claim identity for definitions of a certain concept in different countries. Formal identity may be found but functional identity is desirable.

Chapter II

DESCRIPTION OF DEVELOPMENT LINES

1. EXPENDITURE GROWTH AND ECONOMIC AGGREGATES

We begin this Chapter with a broad survey of average annual growth rates of public expenditure on education in Unesco Member States grouped by continents (Table 1).

A number of countries reporting to Unesco have been excluded because their cost-of-living index showed, in the period covered, extraordinarily high increases and it was assumed that these price movements would be more or less expressed in the educational expenditure figures and make these figures even less comparable. Price changes are a component of all the growth rates given in Table 1 and in the following tables. An enormous effort would have been necessary if we had tried to recalculate the expenditure figures in real terms. We shall discuss the possibility of special price indices of goods and services used in formal education in Chapter V B.

The distortion of comparability of our figures is likely to be greater in a long time period. We have therefore, in Table 1 and some of the following tables, given only the changes in the five-year period 1960-1965. Even for this period and for the selected group of countries we cannot say how much significance the differences in the growth rates may have. However, such a survey may challenge some countries with particularly low or high rates to investigate the causes. It may also stimulate renewed interest in the question, whether it is meaningful to continue collecting and calculating figures like those in Table 1 without making stronger efforts to assure comparability in real purchasing power.

These reservations and questions apply also to the following tables. In Tables 2 and 3 we have ranked 75 countries according to the average growth rates of their total and recurring public expenditure on education. We see that in Table 2 there are among the first 15 countries listed only three which would fall into the category of highly developed nations (Denmark, France and Switzerland). Most of the countries belonging to this category are more in the centre of the rank order.

Tables 4 - 5 confirm the impression of generally strong world-wide expansion of educational budgets. For Tables 4 and 5 the amounts of educational expenditure were converted into US dollars, using official exchange rates, and then divided by the number of population. The countries are grouped according to magnitude, ranging from less than one dollar per capita to one hundred dollars and more. Between 1955 and 1965 there is a decrease in the number of countries spending small amounts per head and an increase in the number of countries spending relatively high amounts. About two thirds of the total number of countries grouped in Tables 4 and 5 were spending less than twenty-five dollars per head of population. One may ask how much these small sums can mean in terms of educational facilities and personnel in countries, where the percentage of population between 5 and 25 is often a third of the total population. Again it must be stressed that distortions of comparability are to be expected if the official exchange rates are used for conversion into US dollars (or any other currency unit). In some cases we have excluded countries from the grouping in these tables because the application of official exchange rates resulted in obviously very dubious figures. For instance, total expenditure per capita in 1965 would be, for Poland two-hundred and fifteen dollars, for the USSR ninety-one dollars, for Romania sixty-three dollars, as compared with two-hundred and fifteen dollars for the United States and eighty-three dollars for France, if the official rates were used.

In Tables 6 and 7 the problem of conversion into one currency is avoided by relating educational expenditure to total public spending and National Income. Table 6 compares the proportion of educational expenditure in the overall public budget in the years 1960 and 1965. For the latter year 121

Table 3 *Average Annual Growth Rates of Public Expenditure on Education in [illegible] Member States, by Continent, 1960–1965: Recurring and Total Expenditure*

Continent and Country	Recurring Expenditure		Total Expenditure	
	Average Increase (%)	Period Covered	Average Increase (%)	Period Covered
AFRICA	10.8		13.5	
Burundi	15.2	1960-65	15.4	1960-65
Central African Rep.	11.7	1961-65	11.7	1961-65
Congo, Dem. Rep.	18.2	1960-65	...	...
Dahomey	15.2	1960-65	...	...
Gabon	15.8	1960-65	...	...
Kenya	...	...	8.2	1960-65
Lesotho	...	...	14.6	1960-65
Madagascar	4.8	1961-65	8.5	1961-65
Mali	15.7	1961-65	20.5	1960-65
Mauritania	11.8	1961-64	...	...
Morocco	8.6	1960-65	9.6	1960-65
Niger	19.2	1960-65	15.6	1960-65
Nigeria	5.2	1962-65	8.1	1962-65
Senegal	11.8	1961-65	8.8	1962-65
Sudan	...	...	8.5	1960-64
Togo	...	...	8.6	1960-64
Tunisia	14.5	1961-65	...	...
Uganda	6.2	1960-65	7.8	1960-65
United Arab Rep.	11.8	1961-65	11.1	1961-65
United Rep. of Tanzania	7.8	1960-65	...	...
Upper Volta	18.7	1960-64	...	...
AMERICA, NORTH	11.5		11.6	
Canada	13.8	1960-65	16.1	1960-65
Costa Rica	...	...	7.8	1961-64
Cuba	15.5	1961-65	15.3	1961-65
El Salvador	...	...	15.7	1960-64
Guatemala	11.6	1962-65	15.5	1962-65
Haiti	8.8	1960-64	6.2	1961-64
Honduras	...	...	14.6	1961-64
Jamaica	7.8	1960-65	9.3	1960-65
Trinidad & Tobago	10.5	1960-64	16.7	1960-64
U.S.A.	12.6	1961-65	12.5	1961-65
AMERICA, SOUTH	21.0		18.5	
Colombia	29.5	1960-64	...	...
Ecuador	25.4	1960-65	24.8	1960-65
Guyana	11.9	1960-65	10.2	1960-65
Peru	22.8	1960-65	25.7	1960-65
Venezuela	...	...	7.6	1960-64

Continent and Country	Recurring Expenditure		Total Expenditure	
	Average Increase (%)	Period Covered	Average Increase (%)	Period covered
ASIA	13.1		14.8	
Bahrain	13.9	1960-65	12.1	1960-65
Burma	18.3	1960-63	20.3	1960-63
Cambodia	10.3	1960-65	9.2	1960-65
Ceylon	2.9	1961-65	3.3	1961-65
China (Taiwan)	12.9	1961-65	20.8	1960-65
Cyprus	10.7	1961-65	9.2	1961-65
India	10.9	1960-63	11.9	1960-63
Iraq	12.4	1960-65	7.4	1960-65
Japan	17.4	1961-65	18.4	1961-65
Jordan	7.8	1960-64	7.5	1960-64
Korea, Rep. of	17.6	1960-65	14.5	1960-65
Kuwait	6.4	1960-65	...	...
Lebanon	19.9	1961-65	21.4	1960-65
Malaysia				
West Malaysia	...	...	...	...
Sabah	26.9	1961-65	29.0	1961-65
Sarawak	14.3	1961-65	14.7	1961-65
Pakistan	10.5	1960-65	20.8	1960-65
Qatar	11.3	1961-65	7.0	1961-65
Singapore	12.3	1960-65	14.3	1960-65
Southern Yemen, People's Rep. of [1]	...	...	28.9	1962-65
Thailand	8.1	1960-65	11.4	1960-65
Turkey	14.2	1961-65	...	...
Viet-Nam, Rep. of	16.0	1960-64	14.5	1960-64
EUROPE	13.3		14.5	
Austria	12.4	1960-65	14.1	1960-65
Belgium	11.5	1960-64	14.5	1960-64
Bulgaria	6.9	1961-65	14.0	1960-65
Czechoslovakia	10.7	1960-65	6.5	1960-65
Denmark	24.6	1960-65	26.6	1960-65
Finland	15.9	1960-65	15.3	1960-65
France [2]	19.8	1960-65	23.2	1960-65
Germany, Fed. Rep. of [3]	12.0	1960-65	12.6	1960-65
Greece	...	...	16.9	1960-64
Hungary	7.8	1960-65	7.9	1960-65
Iceland	...	...	26.5	1961-64
Ireland	13.5	1960-65	14.9	1960-65
Italy	16.6	1960-65	17.6	1960-65
Liechtenstein	23.7	1960-65	...	...
Luxembourg	11.5	1961-65	...	...
Netherlands	17.9	1960-64	16.4	1960-64
Norway	13.9	1960-65	14.7	1960-65
Poland	9.3	1960-65	9.2	1960-65
Portugal	4.8	1960-65	3.3	1960-65
Romania	13.0	1960-65	12.9	1960-65

Continent and Country	Recurring Expenditure		Total Expenditure	
	Average Increase (%)	Period Covered	Average Increase (%)	Period Covered
EUROPE, (Cont.)				
Sweden	15.7	1960-65	17.4	1960-65
Switzerland	...	...	21.1	1960-64
United Kingdom	11.9	1961-65	9.0	1961-65
England & Wales	11.8	1961-65	11.3	1961-65
Northern Ireland	13.2	1960-65	16.6	1960-65
Scotland	13.1	1960-65	14.0	1960-65
OCEANIA	11.6		11.4	
Australia	12.2	1961-65	11.8	1961-65
New Zealand	10.9	1960-65	10.9	1960-65
USSR				
USSR	11.4	1960-65	10.5	1960-65
Byelorussian SSR	...	...	...	...
Ukrainian SSR	11.1	1961-65	10.4	1961-65

1. Former Aden only.
2. Ministry of Education only.
3. Including West Berlin.

Source : Unesco questionnaire on statistics of educational finance and expenditure.

Table 2 *Average Annual Growth Rates of Public Expenditure on Education in Unesco Member States, by Rank Order, 1960 - 1965. Recurring Expenditure*

Country	Rank	Average Increase (%)	Period Covered
Mali	1	35.7	1961-65
Guinea	2	33.0	1960-65
Colombia	3	29.5	1960-64
Sabah [1]	4	26.9	1961-65
Congo, Dem. Rep.	5	26.2	1960-65
Botswana	6	25.2	1960-65
Denmark	7	24.6	1960-65
Liechtenstein	8	23.7	1960-65
Ecuador	9	23.4	1960-65
Peru	10	22.9	1960-63
Central African Rep.	11	21.7	1961-65
Lebanon	12	19.9	1961-65
France [2]	13	19.8	1960-65
Niger	14	19.2	1960-65
Upper Volta	15	18.7	1960-64
Burma	16	18.3	1960-63
Netherlands	17	17.9	1960-64
Korea, Rep. of	18	17.6	1960-65
Japan	19	17.4	1961-65
Italy	20	16.6	1960-65
Viet-Nam, Rep. of	21	16.0	1960-64
Finland	22	15.9	1960-65
Sweden	23	15.7	1960-65
Cuba	24	15.5	1961-65
Tunisia	25	14.3	1961-65
Sarawak [1]	26	14.3	1961-65
Turkey	27	14.2	1961-65
Norway	28	13.9	1960-65
Bahrain	29	13.9	1960-65
Ireland	30	13.5	1960-65
Romania	31	13.0	1960-65
China (Taiwan)	32	12.9	1961-65
Canada	33	12.8	1960-65
U.S.A.	34	12.6	1961-65
Iraq	35	12.4	1960-65
Austria	36	12.4	1960-65
Singapore	37	12.3	1960-65
Australia	38	12.2	1961-65
Germany, Fed. Rep. of [3]	39	12.0	1960-65
Guatemala	40	12.0	1962-65

Country	Rank	Average Increase (%)	Period Covered
Senegal	41	12.0	1961-65
United Kingdom	42	11.9	1961-65
Guyana	43	11.9	1960-65
Mauritania	44	11.9	1961-64
United Arab Rep.	45	11.8	1961-65
Luxembourg	46	11.5	1961-65
Belgium	47	11.5	1960-64
USSR	48	11.4	1960-65
Qatar	49	11.3	1961-65
Dahomey	50	11.2	1960-65
Ukrainian SSR	51	11.1	1961-65
New Zealand	52	10.9	1960-65
Trinidad & Tobago	53	10.9	1960-64
India	54	10.9	1960-63
Czechoslovakia	55	10.7	1960-65
Cyprus	56	10.7	1961-65
Pakistan	57	10.5	1960-65
Cambodia	58	10.3	1960-65
Poland	59	9.3	1960-65
Haiti	60	8.8	1960-64
Morocco	61	8.4	1960-65
Thailand	62	8.1	1960-65
Hungary	63	7.8	1960-65
Jordan	64	7.8	1960-64
United Rep. of Tanzania	65	7.8	1960-65
Jamaica	66	7.0	1960-63
Bulgaria	67	6.9	1961-65
Madagascar	68	6.8	1961-65
Kuwait	69	6.4	1960-65
Portugal	70	4.8	1960-65
Uganda	71	4.2	1960-65
Nigeria	72	3.2	1962-65
Ceylon	73	2.9	1961-65

1. Forms part of the Federation of Malaysia.
2. Ministry of Education only.
3. Including West Berlin.

Source : Unesco questionnaire on statistics of educational finance and expenditure.

Table 5 *Average Annual Growth Rates of Public Expenditure on Education in Unesco Member States, by Rank Order, 1960–1965. Total Expenditure*

Country	Rank	Average Increase (%)	Period Covered
Sabah [1]	1	29.0	1961-65
Southern Yemen People's Rep. of [2]	2	28.9	1962-65
Denmark	3	26.6	1960-65
Iceland	4	26.5	1961-64
Mali	5	26.5	1960-65
Peru	6	25.7	1960-65
Ecuador	7	24.8	1960-65
Botswana	8	23.4	1960-65
France [3]	9	23.2	1960-65
Central African Rep.	10	21.7	1961-65
Lebanon	11	21.4	1960-65
Switzerland	12	21.1	1960-64
Pakistan	13	20.8	1960-65
China (Taiwan)	14	20.8	1960-65
Burma	15	20.3	1960-65
Lesotho	16	19.6	1960-65
Japan	17	18.4	1961-65
Italy	18	17.6	1960-65
Jamaica	19	17.4	1960-65
Greece	20	16.9	1960-64
Netherlands	21	16.4	1960-64
Guyana	22	16.2	1960-65
Canada	23	16.1	1960-65
Guatemala	24	15.7	1962-65
Niger	25	15.4	1960-65
Finland	26	15.3	1960-65
Ireland	27	14.9	1960-65
Norway	28	14.7	1960-65
Sarawak [1]	29	14.7	1962-65
Honduras	30	14.6	1961-64
Belgium	31	14.5	1960-64
Viet-Nam, Rep. of	32	14.5	1960-64
Korea, Rep. of	33	14.5	1960-64
Singapore	34	14.3	1960-65
Austria	35	14.1	1960-65
Bulgaria	36	14.0	1960-65
Cuba	37	13.3	1960-65
Romania	38	12.9	1961-65
Germany, Fed. Rep. of [4]	39	12.6	1960-65
U.S.A.	40	12.5	1961-65

Country	Rank	Average Increase (%)	Period Covered
Bahrain	41	12.1	1960-65
India	42	11.9	1960-63
Australia	43	11.8	1961-65
El Salvador	44	11.7	1960-64
Thailand	45	11.6	1960-65
United Arab Rep.	46	11.3	1961-65
New Zealand	47	10.9	1960-65
Trinidad & Tobago	48	10.7	1960-64
USSR	49	10.5	1960-65
Ukrainian SSR	50	10.4	1961-65
Sudan	51	9.5	1960-64
Morocco	52	9.4	1960-63
Poland	53	9.2	1960-65
Cyprus	54	9.2	1961-65
Cambodia	55	9.2	1960-65
Nigeria	56	9.1	1962-65
Kenya	57	9.1	1960-65
United Kingdom	58	9.0	1961-65
Senegal	59	8.8	1962-65
Togo	60	8.6	1960-64
Madagascar	61	8.5	1961-65
Hungary	62	7.9	1960-65
Uganda	63	7.8	1960-65
Jordan	64	7.5	1960-64
Iraq	65	7.4	1960-65
Venezuela	66	7.4	1960-64
Costa Rica	67	7.3	1961-64
Qatar	68	7.0	1961-65
Czechoslovakia	69	6.5	1960-65
Haiti	70	6.2	1961-64
Jamaica	71	5.5	1960-63
Portugal	72	5.5	1960-65
Ceylon	73	5.5	1961-65

1. Forms part of the Federation of Malaysia.
2. Former Aden only.
3. Ministry of Education only.
4. Including West Berlin.

Source : Unesco questionnaire on statistics of educational finance and expenditure.

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Table 4 *Public expenditure on education per capita in U.S. dollars in Unesco Member States : distribution by order of magnitude around 1955, 1960 and 1965. Recurring Expenditure*

Year	Less than $1	$1 to less than $5	$5 to less than $10	$10 to less than $25	$25 to less than $50	$50 to less than $100	$100 and more	Total
			Number of countries					
1955	6	16	12	9	3	2	–	48
1960	4	30	17	14	11	4	2	82
1965	4	24	17	14	10	14	3	86
			As percentage					
1955	12.5	33.3	25.0	18.8	6.3	4.2	–	100
1960	4.9	36.6	20.7	17.1	13.4	4.9	2.4	100
1965	4.7	27.9	19.8	16.3	11.6	16.3	3.5	100

National currencies have been converted into U.S. dollars by means of official exchange rates as given in International Financial Statistics, published by the IMF, and Monthly Bulletin of Statistics, published by the U.N.

Table 5 *Public expenditure on education per capita in U.S. dollars in Unesco Member States : distribution by order of magnitude around 1955, 1960 and 1965. Recurring Expenditure*

Year	Less than $1	$1 to less than $5	$5 to less than $10	$10 to less than $25	$25 to less than $50	$50 to less than $100	$100 and more	Total
			Number of countries					
1955	4	23	14	8	8	3	–	60
1960	6	29	17	14	13	6	2	87
1965	3	20	17	18	8	14	7	87
			As percentage					
1955	6.7	38.3	23.3	13.3	13.3	5.0	–	100
1960	6.9	33.3	19.5	16.1	14.9	6.9	2.3	100
1965	3.4	23.0	19.5	20.7	9.2	16.1	8.0	100

National currencies have been converted into U.S. dollars by means of official exchange rates as given in International Financial Statistics, published by the IMF, and Monthly Bulletin of Statistics, published by the U.N.

Table 6 *Public expenditure on education as a percentage of the budget 1960 and 1965*

Continent	1960		1965	
	Percentage of budget	Number of countries[1]	Percentage of budget	Number of countries[1]
Africa	14.5	23	16.4	36
America, North	15.6	10	17.6	18
America, South	12.6	7	15.4	10
Asia	11.8	17	13.2	28
Europe (incl. USSR)	13.5	13	15.0	23
Oceania	10.4	4	15.7	10
World	13.5	74	15.5	125
Developed countries[2]	13.6	15	15.9	15
Developing countries[3]	13.2	30	15.5	30

[1] Including territories.
[2] Countries with GNP per capita above $1,000 (around 1965).
[3] Countries with GNP per capita below $300 (around 1965).

Source : Unesco questionnaire on statistics of educational finance and expenditure.

Table 7 *Public expenditure on education as a percentage of the National Income, 1960 and 1965*

Continent	1960		1965	
	Percentage of National Income	Number of countries	Percentage of National Income	Number of countries
Africa	3.0	21	4.3	22
America, North	3.9	15	4.1	14
America, South	3.1	11	4.0	11
Asia	3.3	16	4.0	16
Europe (incl. USSR)	4.2	25	5.3	24
Oceania	3.7	2	4.4	2
World	3.6	90	4.5	89
Developed countries[1]	4.7	20	6.2	20
Developing countries[2]	2.9	30	3.8	30

[1] Countries with GNP per capita above $1,000 (around 1965).
[2] Countries with GNP per capita below $300 (around 1965).

Source : Unesco questionnaire on statistics of educational finance and expenditure.

countries are included, for 1960 only 74. In these years there seems to have been in all continents a marked tendency to give education priority in public spending (1), slightly more so in the poorer than in the richer countries. According to the figures in Table 7, the proportion of educational expenditure in the National Income during the same period, taking an average of about 90 countries, rose from 3.6% to 4.5%

Before we concentrate on the sample, it may be useful to compare the recent developments just described with secular trends in some countries. Tables 8 - 10 give examples of time series compiled for periods of 50 and more years. In all these countries educational expenditure, according to the definition chosen for these tables, has in the long run increased its share in National Income. The proportion doubled or tripled in the periods covered by Tables 8 - 10. There was no even curve of increase of this proportion. In the countries seriously involved in war the proportion fell temporarily. During the economic crisis of the thirties the proportion went up because the National Income diminished, whereas educational expenditure could not decrease correspondingly because of the contractual nature of teachers' salaries. Changes in age groups, in enrolment ratios, student/staff ratios and, last but not least, in teachers' salaries must have had varying effects on educational expenditure from nation to nation.

Tables 8 and 9 relate educational expenditure also to total public spending. Here, no similarity in trend can be noted. The proportion of educational expenditure to total public expenditure has not shown a general tendency to increase. Obviously this has to be viewed in the light of the very different development of total public spending in relation to National Income or Gross National Product. Where the public sector is 30% of the GNP, formal education which constitutes 6% of the National Income will represent 20% of total public spending. But, where the public sector only amounts to 10% of the National Income, which is the case in many of the poorer countries, it would mean that 60% of total public expenditure goes to education. On the whole the trend has been towards an increase of the public sector in the national aggregate. Educational expenditure has in general absorbed a growing share of a growing public sector. But the relative size of the total public budget still varies widely from nation to nation. This one has to bear in mind when comparing the percentage of educational expenditure in total public spending over a period of time and internationally.

Charts 1-13 show examples of the trends to be observed in the more recent period 1950-1965. The developments of Gross National Product (2), total public spending (3) and educational expenditure (4) have been calculated and charted as indices on the basis 1957 = 100. Data availability and regional spread have been the main criteria for selecting these 13 countries. The graphs confirm the main result of former analysis: There is a continued increase of the percentage of National Income or Gross National Product claimed by publicly financed education. Even in the richest and educationally already highly developed countries no indication of a decrease in this percentage can be discovered in these graphs. A number of the graphs show a particularly steep upturn of the education curve in the period 1960-1965. Most of the graphs also show an upward movement of the education curve in relation to total public spending. With regard to the amounts of the increases demonstrated in the graphs, differences in price developments have, of course, to be considered. In Chile, for instance, where the index of expenditure on education rose to 1,200 points (1957 = 100) the influence of inflation was extraordinary. The cost-of-living index in this country rose from 100 in 1957 to 506 in 1964 (5).

In Table 11 changes in the relation of public expenditure on education to Gross National Product (6) between 1960 and 1965 are given for 28 countries for which the data were available. With the exception of Ceylon and Morocco, all countries in this selection have increased the proportion of educational expenditure to the aggregate product during these five years. The countries are listed in rank order (figures in brackets) according to the size of this proportion in 1960 and 1965. In 1965 as well as in 1960 most of the relatively rich countries are ranked in the upper half of the list in columns (1) and (2). Most of them but not quite as many as in the first two columns rank also high in column (3) which shows the absolute increase in the share of education in the national aggregate. But in the last column only Japan, Canada and the United Kingdom rank among the first fifteen. In this last rank order the relatively poor countries occupy most of the first fifteen places.

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(1) See also country tables in Annex I.

(2) In some cases, National Income or Net Material Product were substituted for Gross National Product.

(3) With the exception of Ghana and Mexico, public expenditure in our figures comprises besides central government expenditure also expenditure on the state and local level.

(4) All figures of educational expenditure used for these graphs and for the following graphs and tables are taken from the reports to Unesco. No attempt to standardize these figures has been made.

(5) INTERNATIONAL MONETARY FUND, International Financial Statistics; Supplement to 1965/1966 Issues, Washington 1965.

(6) Some confusion is caused by the different ways in which educational expenditure is related to national aggregates in various studies. If the National Income is chosen instead of the larger Gross National Product, educational expenditure as a percentage of the aggregate is usually one per cent higher.

Table 8 *Educational Expenditure in Germany[1] in Relation to Other Macro-Economic Data 1913 - 1960. Current Prices*

Year	Population (000's)	National Income	Gross National Product	Total Public Expenditure	Total Educational Expenditure	Total Educational Expenditure per Capita (RM/DM)	Column (6) as % of Column (3)	Column (6) as % of Column (4)	Column (6) as % of Column (5)
			(m. RM/DM)						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1913	60,220	43,728	...	7,178	1,227	20.37	2.80	...	17.09
1925	62,526	57,397	...	14,465	2,003	32.03	3.48	...	13.84
1926	62,967	60,050	...	17,201	2,149	34.12	3.57	...	12.49
1927	63,349	67,285	...	18,770	2,455	38.75	3.64	...	13.07
1928	63,707	72,395	...	20,801	2,730	42.85	3.77	...	13.12
1929	64,043	72,297	...	20,872	2,870	44.81	3.96	...	13.75
1930	64,374	66,199	...	20,406	2,695	41.86	4.07	...	13.20
1931	64,687	53,794	...	16,977	2,252	34.81	4.18	...	13.26
1932	64,988	42,597	...	14,535	1,922	29.57	4.51	...	13.22
1933	65,312	44,049	...	...	1,919	29.38	4.35	...	...
1934	65,710	50,443	...	...	2,022	30.77	4.00	...	...
1935	67,018	56,849	...	...	2,042	30.47	3.59	...	...
1936	67,470	63,599	...	...	2,100	31.12	3.30	...	...
1937	68,015	71,477	...	...	2,244	32.99	3.13	...	...
1950	49,047	77,525	101,062	28,489	2,493	50.80	3.21	2.46	8.75
1951	49,576	93,932	123,525	36,655	3,048	61.50	3.24	2.46	8.30
1952	49,897	106,725	140,719	40,804	3,585	71.80	3.35	2.54	8.78
1953	50,381	115,087	151,207	45,849	4,159	82.60	3.61	2.75	9.07
1954	50,902	124,754	162,787	50,033	4,604	90.40	3.69	2.82	9.20
1955	51,398	143,369	185,679	51,389	5,067	98.60	3.53	2.72	9.86
1956	52,018	158,584	204,648	59,873	5,758	110.70	3.63	2.81	9.61
1957	52,657	172,839	222,663	66,092	6,280	119.30	3.63	2.82	9.50
1958	53,282	184,925	238,156	71,664	7,026	131.90	3.79	2.94	9.80
1959	53,847	200,925	258,509	78,147	7,474	138.80	3.71	2.89	9.56
1960	54,386	223,511	287,800	86,846 [2]	8,477 [2]	155.90	3.79	2.95	9.76

1. 1913-1937 Deutsches Reich ; 1950-1960 Federal Republic of Germany, excluding the Saar, including West Berlin.
2. Fiscal year of 9 months adjusted to 12 months.

Source : EDDING, Friedrich : Expenditure on education : Statistics and comments op. cit., p. 28.

Table 9 *Educational Expenditure in Japan in Relation to Other Macro-Economic Data 1910 - 1960. Current Prices*

Year (1)	Population (000's) (2)	National Income (m. Yen) (3)	Gross National Product (m. Yen) (4)	Total Public Expenditure (m. Yen) (5)	Total Educational Expenditure (m. Yen) (6)	Total Educational Expenditure per Capita (Yen) (7)	Column (6) as % of Column (3) (8)	Column (6) as % of Column (4) (9)	Column (6) as % of Column (5) (10)
1910	49,184	...	...	839	85.3	1.73	...	...	10.16
1920	55,473	...	...	2,253	300.4	5.42	...	...	13.33
1930	63,872	11,700	...	3,144	452.9	7.09	3.87	...	14.41
1935	68,662	14,400	...	4,069	497.1	7.24	3.45	...	12.22
1936	69,590	15,500	...	4,701	524.0	7.53	3.38	...	11.15
1937	70,040	18,600	...	6,515	532.9	7.61	2.87	...	8.18
1938	70,530	20,000	...	9,578	536.7	7.61	2.68	...	5.60
1939	70,850	25,400	...	10,673	580.2	8.19	2.28	...	5.44
1940	71,400	31,000	...	13,019	671.9	9.41	2.17	...	5.16
1941	71,600	35,800	...	18,541	803.0	11.22	2.24	...	4.33
1942	72,300	42,100	...	26,493	888.0	12.28	2.11	...	3.35
1943	73,300	48,400	...	40,459	1,026.0	14.00	2.12	...	2.55
1944	73,800	56,900	...	88,193	1,111.0	15.05	1.95	...	1.26
1945	...	...	...	40,320	1,538.0	...	...	...	3.81
1946	75,325	360,900	...	146,530	7,025.0	93.26	1.95	...	4.79
1947	77,983	968,000	...	263,584	29,495.0	378.22	3.05	...	11.19
1948	79,925	1,961,600	...	584,808	82,486.0	1,032.04	4.21	...	14.10
1949	81,708	2,737,300	...	922,061	127,199.8	1,556.76	4.65	...	13.80
1950	83,167	3,381,500	3,947,000	933,509	161,512.6	1,942.03	4.78	4.09	17.30
1951	84,550	4,347,500	5,445,000	1,172,382	216,474.0	2,560.31	4.98	3.98	18.46
1952	85,792	4,959,000	6,118,000	1,409,188	274,147.6	3,195.49	5.53	4.48	19.45
1953	86,975	5,647,000	7,085,000	1,658,951	329,350.1	3,786.72	5.83	4.65	19.85
1954	88,300	5,984,400	7,466,000	1,766,064	366,237.1	4,147.65	6.12	4.91	20.86
1955	89,276	6,535,000	8,237,000	1,727,000	371,972.4	4,166.54	5.69	4.52	21.54
1956	90,300	7,386,000	9,307,000	1,854,000	395,816.7	4,383.35	5.36	4.25	21.35
1957	91,090	8,269,000	10,097,000	2,033,000	442,788.8	4,861.00	5.35	4.39	21.78
1958	92,010	8,359,000	10,380,000	2,231,000	471,806.2	5,127.77	5.64	4.55	21.15
1959	93,040	9,666,000	12,522,000	2,473,000	521,111.0	5,600.94	5.39	4.16	21.07
1960	93,419	11,431,000	14,350,000	...	612,483.7	6,556.31	5.36	4.27	...

Source : EDDING, Friedrich : Expenditure on education : Statistics and comments op. cit., p. 29.

Table 10 *Educational Expenditure in the United States in Relation to Other Macro-Economic Data 1909 - 1959. Current Prices*

Year (1)	Population (000's) (2)	National Income (m. $) (3)	Gross National Product (m. $) (4)	Total Educational Expenditure[1] (1,000 $) (5)	Total Educational Expenditure per Capita $ (6)	Column (5) as % of Column (3) (7)	Column (5) as % of Column (4) (8)
1909	90,492	27,200[2]	31,600[2]	626,000	6.92	2.30	1.98
1911	93,868	27,200[2]	31,600[2]	705,000	7.51	2.59	2.23
1913	97,227	34,800[3]	40,300[3]	748,000	7.69	2.20	1.86
1917	103,414	66,900[4]	75,600[4]	1,059,000	10.24	1.58	1.40
1927	119,038	81,700	96,300	3,033,000	25.47	3.71	3.15
1929	121,770	87,814	104,436	3,233,601	26.55	3.68	3.10
1931	124,149	59,708	76,300	2,966,464	23.89	4.97	3.89
1933	125,690	40,159	55,964	2,294,896	18.25	5.71	4.10
1935	127,362	57,057	72,502	2,649,914	20.80	4.64	3.65
1937	128,961	73,618	90,800	3,014,074	23.37	4.09	3.32
1939	131,028	72,753	91,100	3,199,593	24.60	4.40	3.51
1941	133,894	104,710	125,800	3,203,548	23.92	3.06	2.55
1943	137,250	170,310	192,500	3,522,007	25.66	2.07	1.83
1945	140,468	181,248	213,558	4,167,597	29.66	2.30	1.95
1947	144,698	198,177	234,300	6,574,379	45.43	3.32	2.81
1949	149,767	217,690	258,100	8,795,635	58.72	4.04	3.41
1951	154,878	279,313	329,000	11,312,446	73.04	4.05	3.44
1953	160,184	305,573	365,400	13,949,876	87.08	4.57	3.82
1955	165,931	330,206	397,469	16,811,651	101.31	5.09	4.23
1957	171,984	366,943	442,769	21,119,565	122.79	5.76	4.77
1959	177,830	399,648	482,783	24,617,000	138.42	6.16	5.10

1. Education in public and private schools, colleges and universities.
2. Annual average 1907-11.
3. Annual average 1912-16,
4. Annual average 1917-21.

Source: EDDING Friedrich : Expenditure on education : statistics and comments, op. cit., p. 30.

Table 11 *Changes in Relation of Public Expenditure on Education to Gross National Product between 1960 and 1965. Selected Countries.*

Country	Public Expenditure on Education as % of Gross National Product						Increase 1960-65	
	(1) around 1960			(2) around 1965			(3) abs.	(4) in %
USSR[1]	(1)	5.89	(1960)	(1)	7.29	(1965)	1.40	23.8
Sweden	(2)	4.84	(1960)	(2)	6.48	(1965)	1.64	33.9
Poland[1]	(3)	4.64	(1960)	(9)	5.04	(1965)	0.40	8.6
Belgium	(4.5)	4.58	(1960)	(4)	5.63	(1964)	1.05	22.9
Ceylon	(4.5)	4.58	(1959)	(12)	4.68	(1964)	0.10	2.2
Hungary[1]	(6)	4.39	(1960)	(5)	5.45	(1965)	1.06	24.1
Canada	(7)	4.38	(1960)	(3)	6.32	(1965)	1.94	44.3
Czechoslovakia[1]	(8)	4.18	(1960)	(6)	5.31	(1965)	1.13	27.0
Japan	(9)	4.14	(1960)	(13)	4.63	(1965)	0.49	11.8
United States	(10)	3.96	(1959)	(8)	5.10	(1964)	1.14	28.8
Italy	(11)	3.86	(1960)	(7)	5.20	(1965)	1.34	34.7
Malawi	(12)	3.72	(1960)	(11)	4.84	(1965)	1.12	30.1
Morocco	(13)	3.55	(1959)	(18)	3.70	(1964)	0.15	4.2
United Kingdom	(14)	3.51	(1959)	(10)	4.85	(1964)	1.34	38.2
Ghana	(15)	3.36	(1960)	(17)	4.10	(1965)	0.74	22.0
Germany, Federal Republic of (incl. West Berlin)	(16)	2.95	(1960)	(19)	3.42	(1965)	0.47	15.9
Guyana	(17)	2.64	(1960)	(14,5)	4.32	(1965)	1.68	63.6
Yugoslavia[2]	(18)	2.54	(1960)	(14,5)	4.32	(1965)	1.78	70.1
Jamaica	(19)	2.49	(1960)	(25)	2.58	(1964)	0.09	3.6
France	(20)	2.43	(1960)	(16)	4.31	(1965)	1.88	77.4
Chile	(21)	2.21	(1960)	(21)	3.05	(1965)	0.84	38.0
China (Taiwan)	(22)	2.02	(1960)	(23)	2.77	(1965)	0.75	37.1
Argentina	(23)	2.01	(1960)	(20)	3.29	(1965)	1.28	63.7
Ecuador	(24)	1.93	(1960)	(22)	3.01	(1965)	1.08	56.0
Colombia	(25)	1.67	(1959)	(24)	2.62	(1964)	0.95	56.9
Paraguay	(26)	1.32	(1960)	(27)	1.68	(1964)	0.36	27.3
Mexico	(27)	1.22	(1960)	(26)	1.88	(1965)	0.66	54.1

1. Related to : Net material product
2. Related to : Gross material product

Sources: Unesco Questionnaires on Statistics of Educational Finance and Expenditure ;
UN Yearbook of National Accounts Statistics.

Chart 1 : Sweden

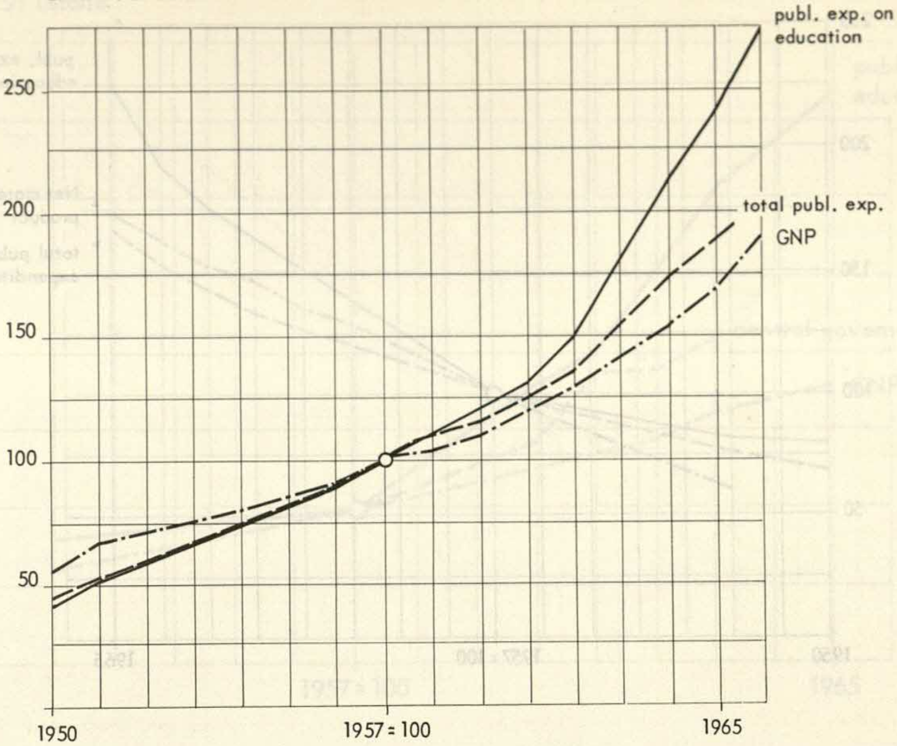


Chart 2 : Germany, Federal Republic of (incl. West Berlin)

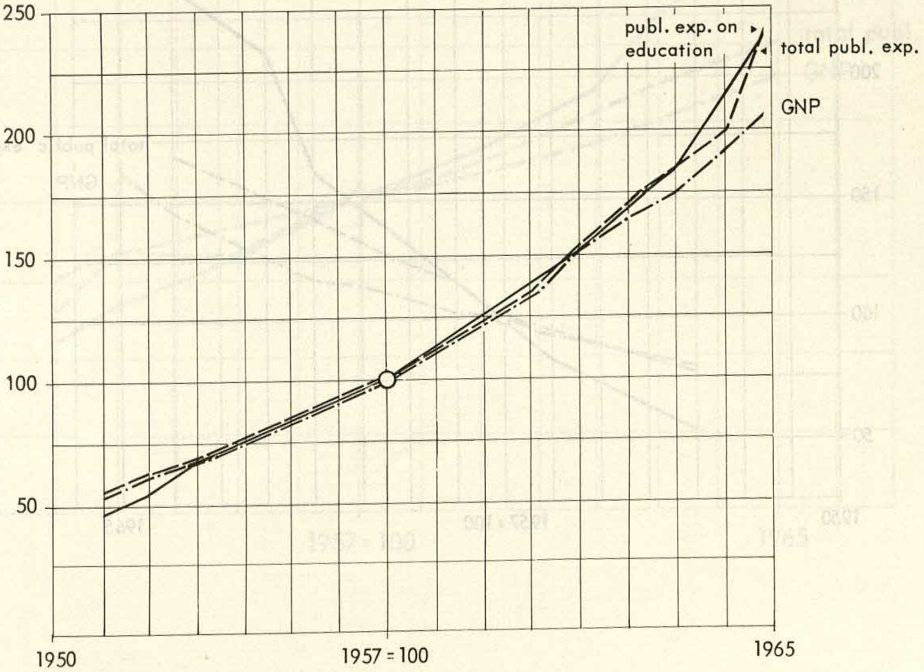


Chart 3 : USSR

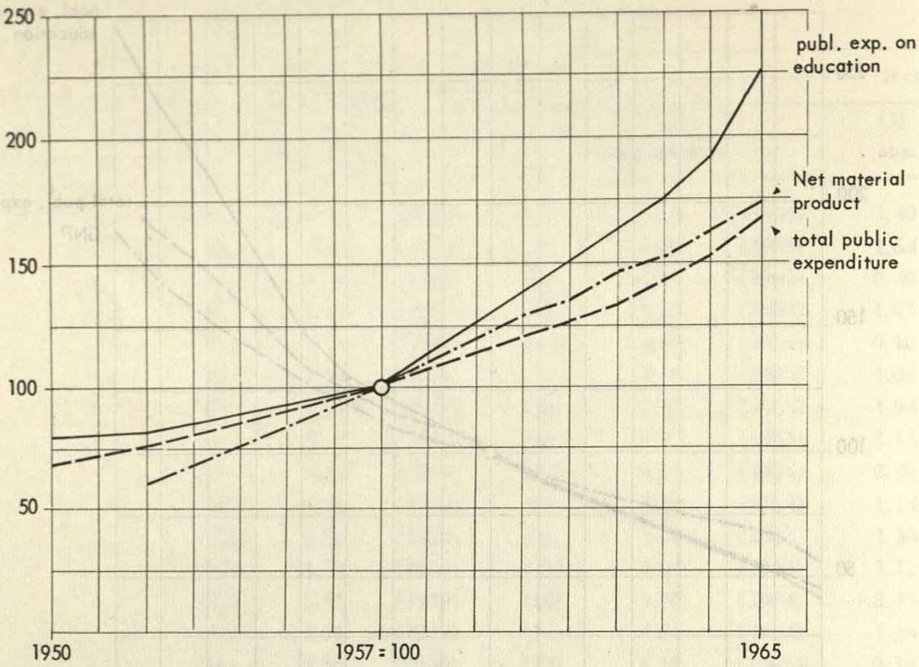


Chart 4 : Canada

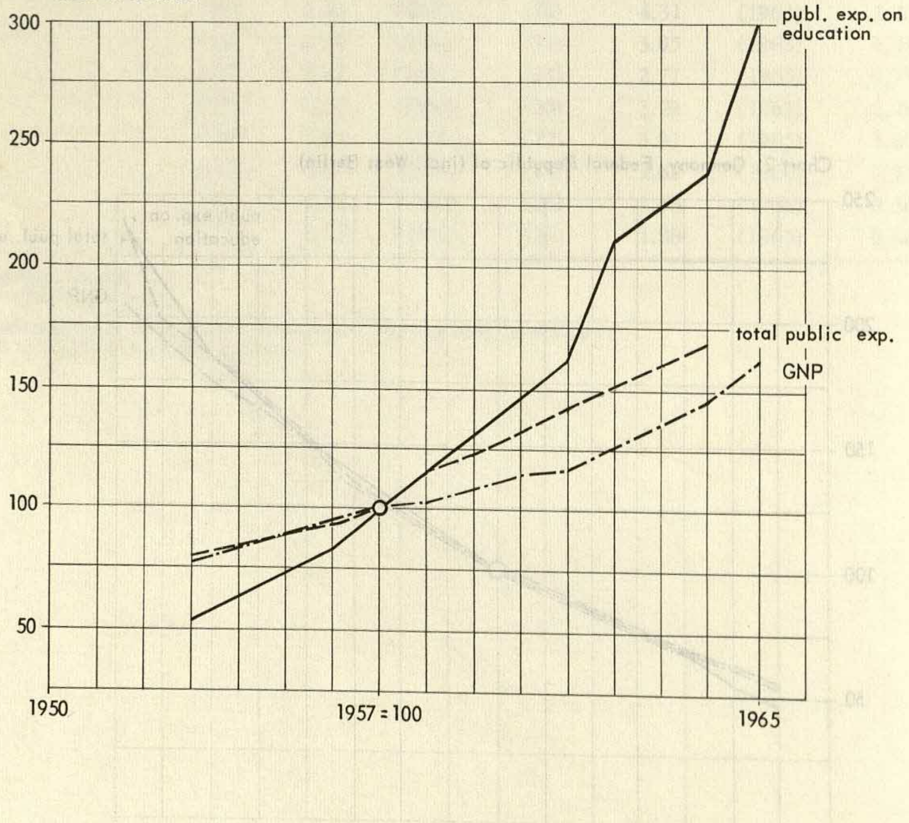


Chart 5 : Ghana

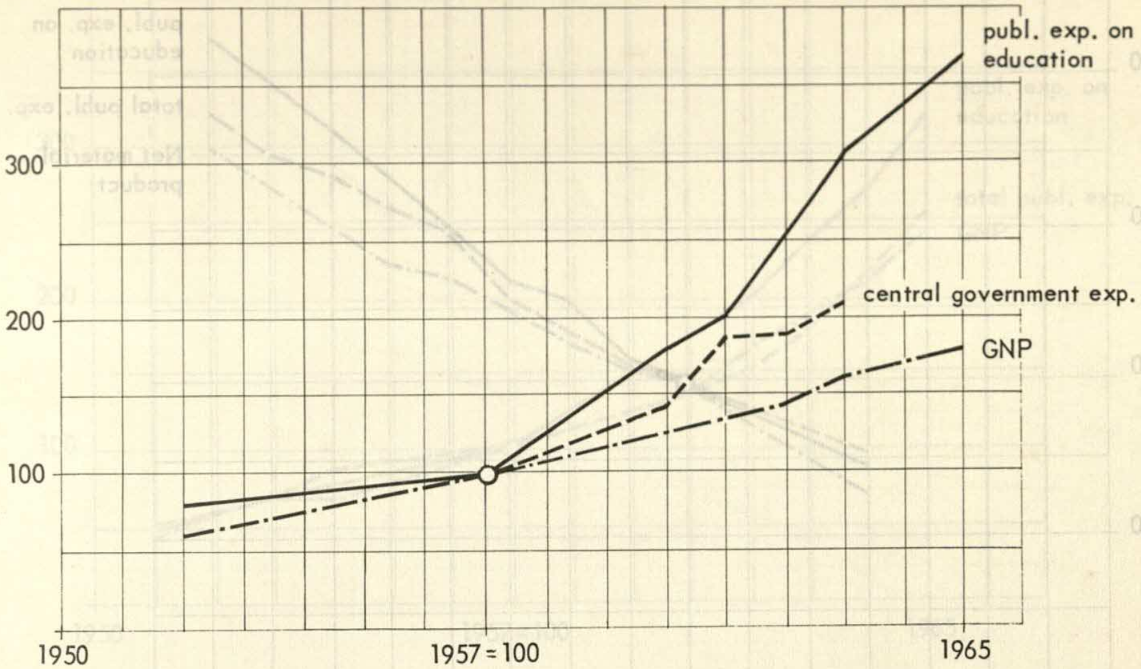


Chart 6 : United States

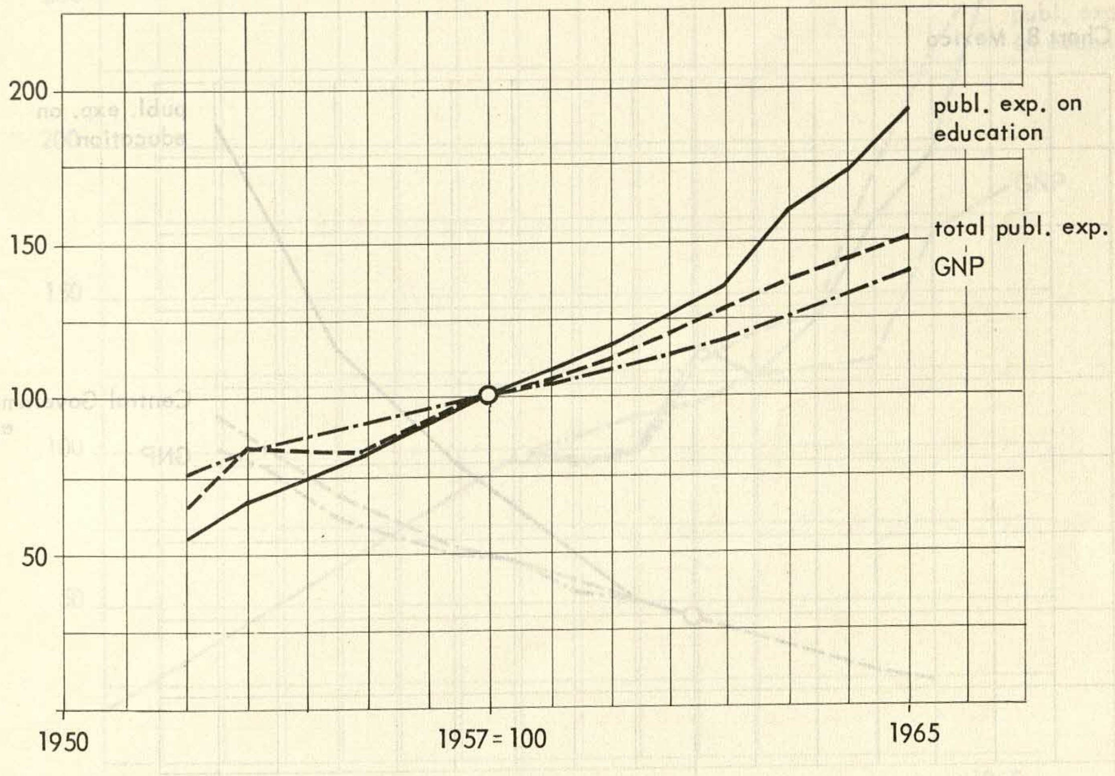


Chart 7 : Poland

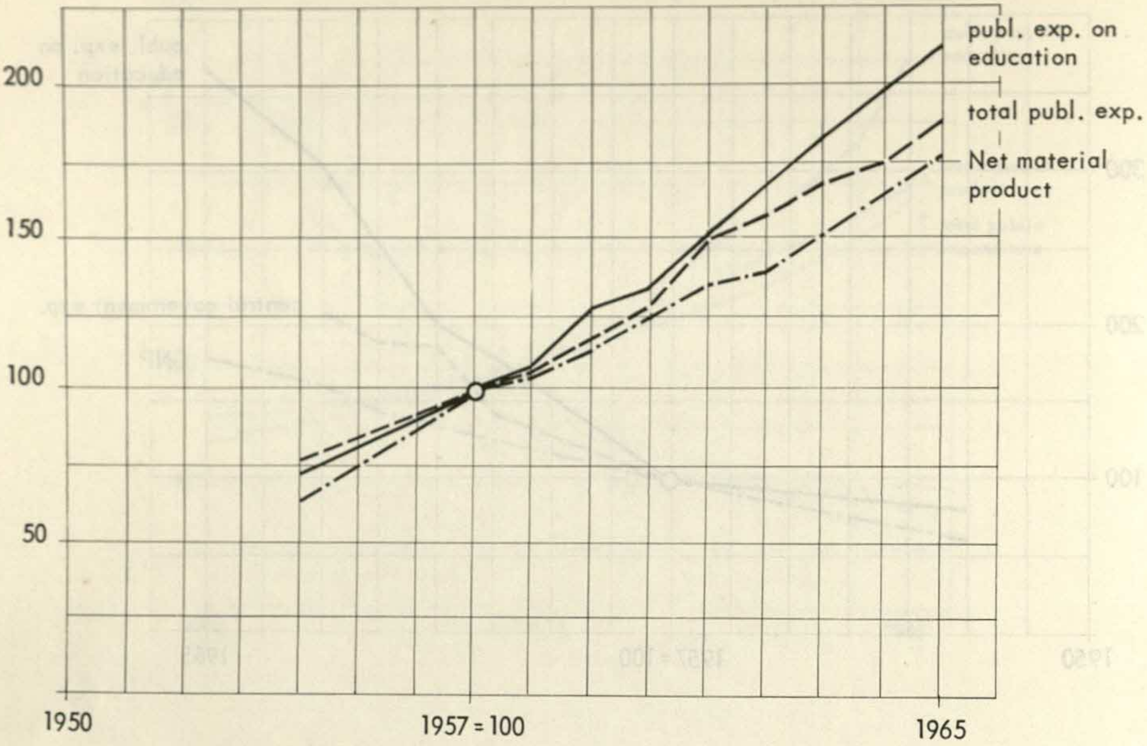


Chart 8 : Mexico

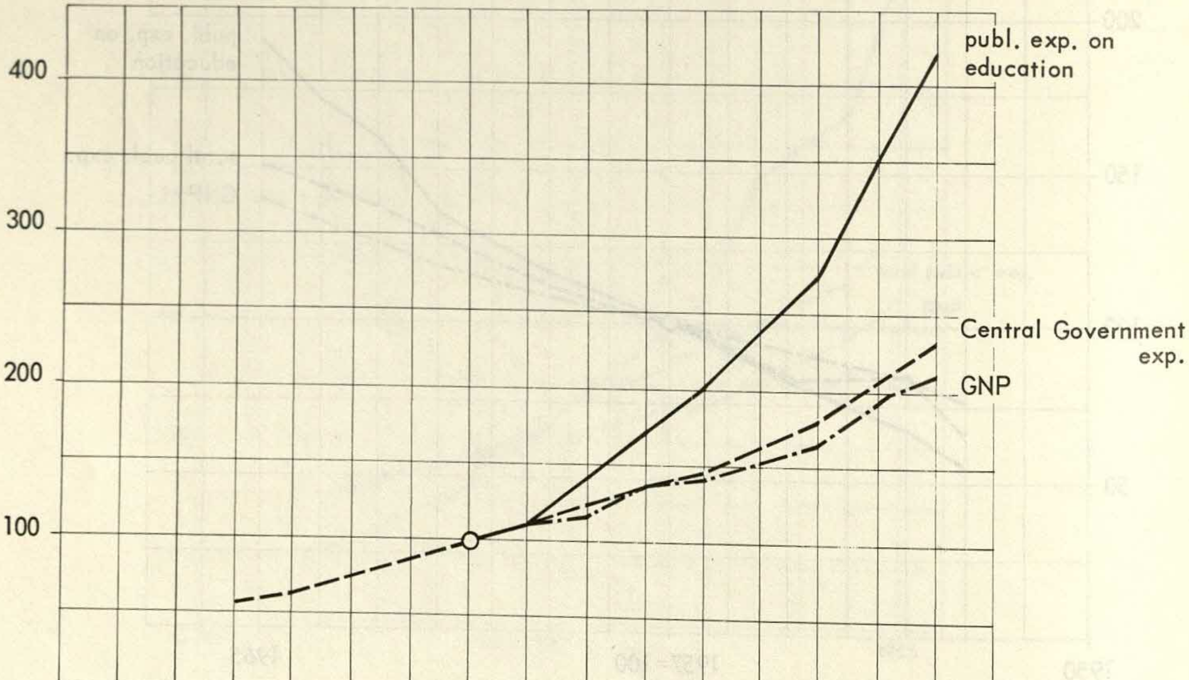


Chart 9 : Japan

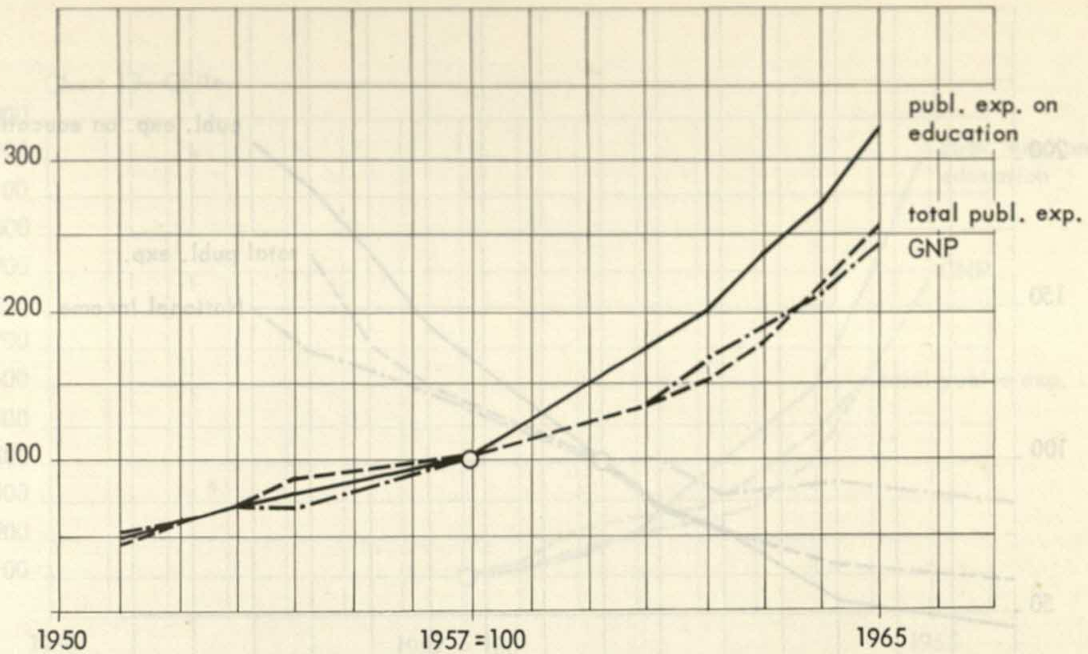


Chart 10 : Malawi

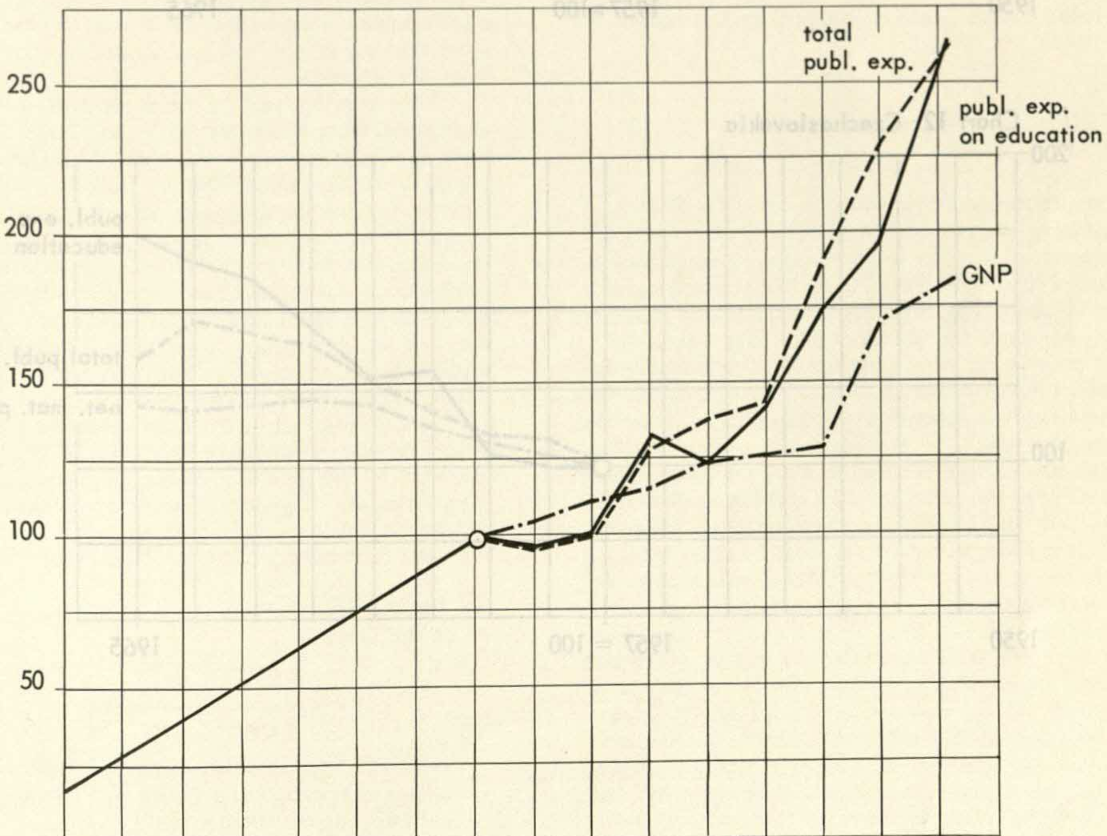


Chart 11 : India

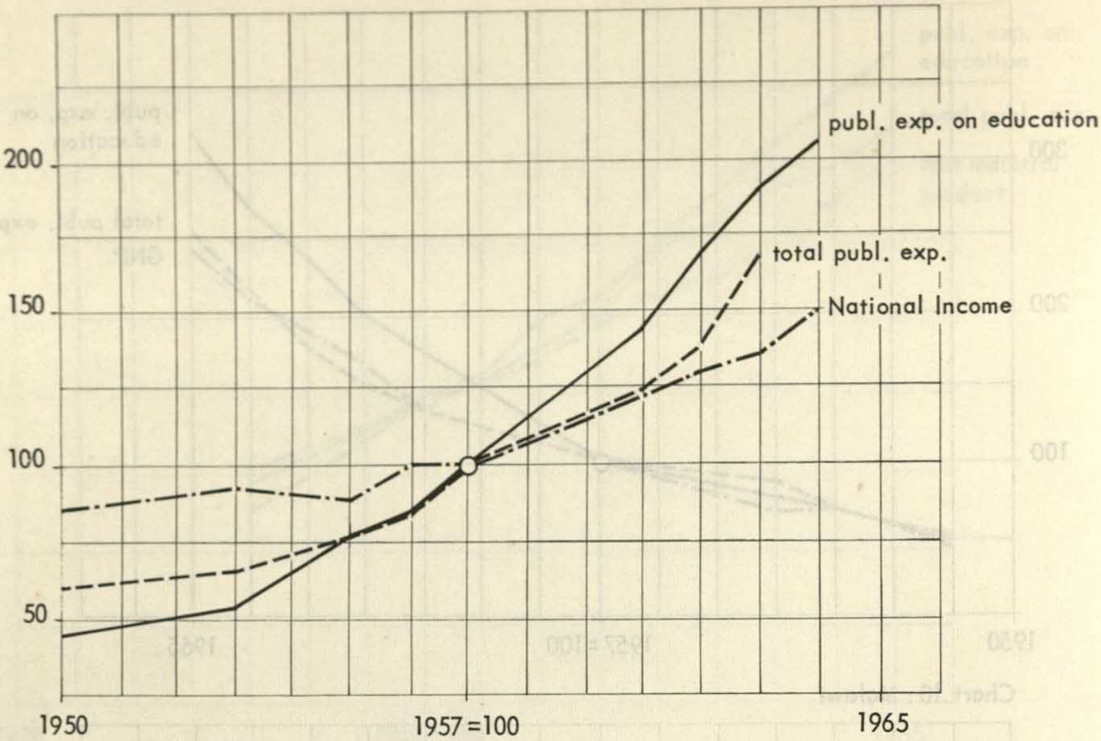


Chart 12 : Czechoslovakia

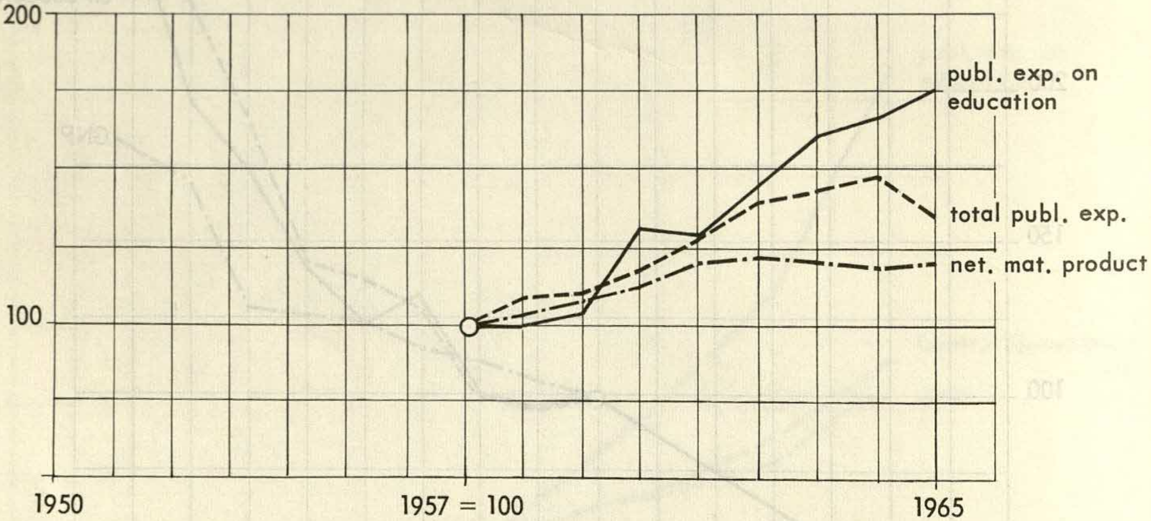
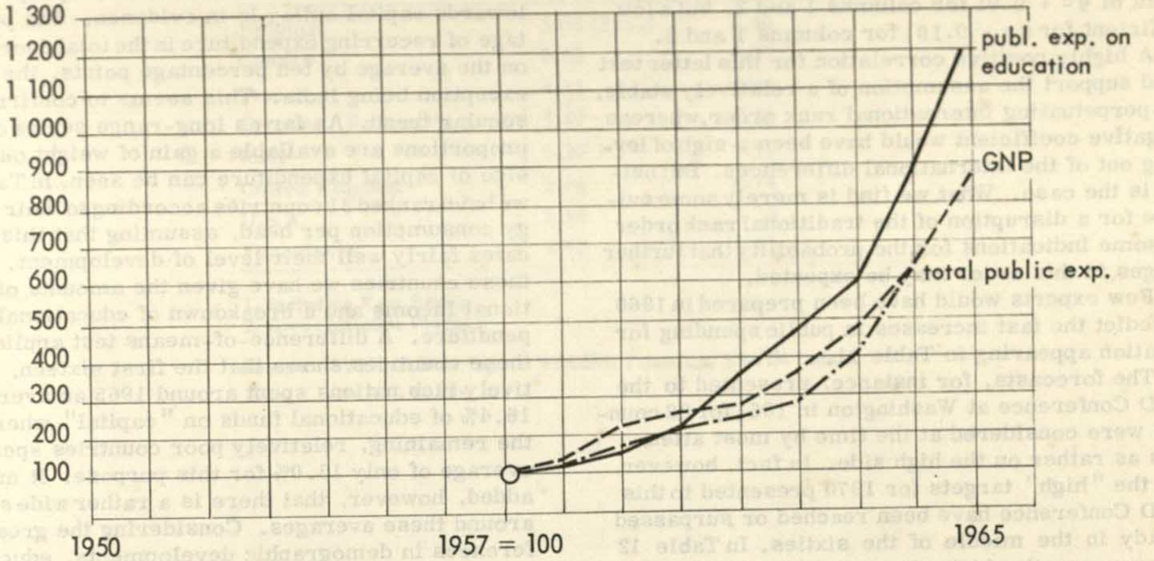


Chart 13 : Chile



Obviously, the efforts they made in relation to their limited economic capacity surpassed those of many industrially developed countries.

A test applying the Spearman-Pearson rank order correlation (1) to Table 11 gives a high coefficient of $\rho = +0.91$ for columns 1 and 2, but a low coefficient for $\rho = +0.19$ for columns 1 and 3.

A highly positive correlation for this latter test would support the assumption of a relatively stable, self-perpetuating international rank order, whereas a negative coefficient would have been a sign of levelling out of the international differences. But neither is the case. What we find is merely some evidence for a disruption of the traditional rank order and some indications for the probability that further changes in this order may be expected.

Few experts would have been prepared in 1960 to predict the fast increases in public spending for education appearing in Table 11.

The forecasts, for instance, presented to the OECD Conference at Washington in 1961 for 22 countries were considered at the time by most attendants as rather on the high side. In fact, however, even the "high" targets for 1970 presented to this OECD Conference have been reached or surpassed already in the middle of the sixties. In Table 12 we compare the high alternative forecast given in the OECD publication for 1970 with the figures calculated on the basis of reports to Unesco for the year 1965.

II. SHIFTS IN COMPOSITION OF EXPENDITURE

Further evidence is provided by the breakdown of expenditure totals according to purpose, level of education and level of government. The purposes accounted for in the reports to Unesco are exemplified in the questionnaires on educational finance and expenditure for the year 1966 (See Annex II).

It may be doubted whether it is justifiable to continue the tradition of always presenting recurrent and capital expenditure separately. It would probably be useful to annualize all outlay on site, building and equipment and to present these figures, together with the debt service and the cost of maintenance, in an additional comprehensive account. The upkeep and operation of plant is so closely bound up with the quality (2) of buildings and equipment that it seems wrong to account for these costs somewhere under the heading "other recurrent expenditure" together with the outlay on meals, transport etc. But we have to take the reports as they are presented so far, and can only regretfully state that they give us little insight into the functional relations between the various expenditures. We must admit, on the other hand, that many of the countries reporting to Unesco seem still to have difficulties in properly assessing even the very simple traditional specifications of expenditure asked for in the standard questionnaire.

Table 13 shows for eight countries from our sample (selected for completeness of data) a rough breakdown of total public expenditure on education by purpose and by level for periods between 1950 and 1965. In these countries a shift in proportion towards capital outlay is in evidence. The percentage of recurring expenditure in the total decreased on the average by ten percentage points, the one exception being India. This seems to confirm a secular trend. As far as long-range series of these proportions are available a gain of weight on the side of capital expenditure can be seen. In Table 14 we have ranked 31 countries according to their energy consumption per head, assuming that this indicates fairly well their level of development. For these countries we have given the amounts of National Income and a breakdown of educational expenditure. A difference-of-means test applied to these countries shows that the first sixteen, relatively rich nations spent around 1965 an average of 16.4% of educational funds on "capital" whereas the remaining, relatively poor countries spent an average of only 13.0% for this purpose. It must be added, however, that there is a rather wide spread around these averages. Considering the great differences in demographic developments, educational plans and price movements, this is to be expected. Unfortunately we cannot describe, on the basis of our figures, what happened in real terms in the development of current and annualized capital outlays per student.

The development in the distribution of total expenditure on education by level shows a distinct shift of weight towards the higher levels. The long-range trend is exemplified by Table 15 which gives figures for the development in the United States since 1909. Similar tables for other leading industrial nations show corresponding patterns. The proportion of total educational expenditure going to secondary schools and higher education is steadily increasing, that going to primary education is diminishing. One can see from the figures for eight countries in Table 13 that industrially less developed countries follow the same pattern in the shift of proportion. It appears from Table 14 that in the top half of the ranking order only two countries (Argentina and Yugoslavia) were spending more than 50% of the total on education at the primary level, whereas this was the case in seven countries ranking

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(1) The Spearman-Pearson rank order correlation is defined as:

$$\rho = 1 - \frac{6 \Sigma D_i^2}{n\ (n^2 - 1)}$$

where D_i^2 denotes the squared differences between corresponding ranks and the size of the sample chosen for analysis.

(2) Cf. ODDIE, Guy: School building resources and their effective use. Some available techniques and their policy implications; OECD, Paris 1966.

Table 12 *Public Educational Expenditure as Percentage of Gross National Product*

	Unesco Reports 1965	OECD Targets 1970 (high alternative)
Belgium	5.63 (1964)	4.40
Canada	6.32	4.87
France	4.31	4.42
Germany, Federal Rep. of [1]	3.40	3.21
Italy	5.20	5.35
United Kingdom	5.14	4.74
U.S.A.	5.30	5.26
Yugoslavia[2]	4.32	3.11

1. Including West Berlin,
2. Gross Material Product.

Source: SVENNILSON Ingvar, EDDING Friedrich, ELVIN Lionel, op. cit., p. 93.

Table 13 *Public Expenditure on Education by Purpose and by Level in Selected Countries (Current Prices; percentages)*

Country	Year	Total	Recurring	Of which at the : 1st level	2nd level	3rd level	Capital, incl. debt service
Malawi	1950	100	97.6	60.3	17.2	1.0	2.4
	1952	100	91.3	57.3	17.4	1.0	8.7
	1957	100	64.4	69.4	24.7	...	35.6
	1958	100	72.6	71.4	24.4	...	27.4
	1959	100	80.2	70.3	24.3	...	19.8
	1960	100	74.3	70.8	24.5	...	25.7
	1962	100	78.9	64.1	29.9	...	21.1
	1964	100	75.5	57.8	33.6	4.0	24.5
	1965	100	78.9	68.7	29.8	7.4	31.9
Canada	1953	100	84.2	90.4		5.7	15.8
	1956	100	84.0	57.6		7.9	16.0
	1957	100	80.2	57.1		8.1	19.8
	1958	100	81.5	57.3		8.0	18.5
	1960	100	81.1	57.0		8.8	18.9
	1961	100	80.0	57.9		9.7	20.0
	1962	100	72.8	57.4		10.4	27.2
	1963	100	79.7	77.9		17.4	20.3
	1964	100	81.0	75.1		20.3	19.0
	1965	100	75.0	72.9		20.5	25.0
Ecuador	1951	100	95.4	49.5	25.3	18.6	4.6
	1953	100	...	50.4	25.7	20.7	...
	1957	100	96.4	46.9	29.8	19.9	3.6
	1960	100	94.4	46.9	29.0	19.9	5.6
	1961	100	88.7	45.1	28.3	22.8	11.3
	1962	100	87.2	52.4	25.7	15.6	12.8
	1964	100	89.2	58.1	21.0	19.5	10.8
	1965	100	86.3	41.3	21.1	32.3	13.7
India	1950	100	78.4	44.8	19.0	7.0	21.6
	1953	100	...	35.0	16.2	6.1	...
	1957	100	77.8	36.6	39.7	20.3	22.2
	1960	100	86.5	24.7	41.6	18.0	13.5
	1961	100	86.6	21.0	35.8	15.4	13.4
	1962	100	87.8	24.3	41.5	18.6	12.2
	1963	100	84.4	24.9	44.2	19.3	15.6
Japan	1951	100	78.4	41.0	37.4	10.6	21.6
	1952	100	79.8	40.5	36.5	11.2	20.2
	1953	100	81.2	40.0	36.6	11.5	18.8
	1954	100	81.0	40.4	37.4	11.3	19.0
	1957	100	80.9	31.6	30.6	11.8	19.1
	1960	100	79.0	31.2	30.2	12.4	21.0
	1961	100	75.7	39.7	38.0	11.4	24.3
	1962	100	74.3	38.7	39.0	11.4	25.7
	1963	100	78.0	36.8	38.4	12.6	22.0

Country	Year	Total	Recurring	Of which at the : 1st level	2nd level	3rd level	Capital, incl. deb· service
Japan (continued)	1964	100	76.3	37.7	39.6	11.1	23.7
	1965	100	76.0	37.9	39.7	11.0	24.0
Germany, Federal Republic of (incl. West Berlin)	1951	100	80.6	55.0	32.8	9.4	19.4
	1952	100	78.8	53.7	33.9	9.6	21.2
	1953	100	80.0	51.3	33.9	12.3	20.0
	1957	100	76.4	49.3	37.4	10.3	23.6
	1960	100	71.7	...	...	12.3	28.3
	1961	100	70.7	47.4	35.8	13.8	29.3
	1962	100	70.6	46.9	35.1	15.0	29.4
	1963	100	73.6	45.6	35.8	16.1	26.4
	1964	100	70.3	45.0	35.4	17.1	29.7
	1965	100	70.7	44.4	34.6	18.8	29.3
Italy	1957	100	91.4	47.9	31.8	5.7	8.6
	1958	100	90.5	45.8	33.1	5.6	9.5
	1959	100	87.8	44.8	34.5	5.4	12.2
	1960	100	...	37.4	31.7	11.4	...
	1961	100	85.2	...	...	...	14.8
	1962	100	82.9	41.9	40.2	6.3	17.1
	1963	100	82.7	46.0	46.1	7.5	17.3
	1964	100	82.3	45.5	46.3	7.8	17.7
	1965	100	83.0	45.6	46.5	7.7	17.0
Yugoslavia	1956	100	...	55.1	20.8	14.1	...
	1957	100	96.9	57.4	19.1	14.8	3.1
	1958	100	99.1	59.7	20.0	13.1	0.9
	1960	100	98.4	58.3	19.3	16.1	1.6
	1962	100	99.4	...	...	...	0.6
	1963	100	91.4	55.3	25.9	17.1	8.6
	1964	100	81.0	53.9	27.2	17.5	19.0
	1965	100	87.2	54.8	27.4	16.4	12.8

Source : Unesco Questionnaires on Statistics of Educational Finance and Expenditure.

Table 14 *Public Educational Expenditure by Purpose and by Level: Selected Countries, ranked by their Energy Consumption per Capita*

Country	Year	Energy Consumption per Capita	National Income (Mio $, curr. prices)	Recurring Exp. on Education as % of total	Of which: At the 1st level	At the 2nd level	At the 3rd level	Capital Exp. incl. debt service as % of total
1 U.S.A.	1965	9.201	566,000	80.3	74.1		25.9	19.7
2 Canada	1965	7.653	36.092	75.0	72.9		20.5	25.0
3 Czechoslovakia	1965	5,676	[1]24,167	90.5	39.2	8.7	15.2	9.5
4 United Kingdom	1965	5,151	79,240	77.5	25.0	38.3	21.8	22.5
5 Sweden	1965	4,506	16,988	79.2	[2]40.1	[2]22.9	[2] 9.2	20.8
6 Belgium	1962	4,410	10,282	90.7	27.5	44.7	6.4	9.3
7 Germany, Fed. Rep. of.[3]	1965	4,234	85,750	70.7	44.4	34.6	18.8	[4]29.3
8 Poland	1965	3,504	[1]22,367	85.5	29.4	17.9	23.2	14.5
9 France	1965	2,951	70,441	[5]78.5	32.5	37.9	[6]16.6	[6]21.5
10 Hungary	1965	2,812	[1]14,223	87.0	40.7	14.9	22.2	13.0
11 Puerto Rico	1965	2,125	2,525	93.0	73.5		26.5	7.0
12 Romania	1965	2,035	...	90.5	70.6		15.7	9.5
13 Italy	1965	1,787	45,571	83.0	45.6	46.5	7.7	17.0
14 Japan	1965	1,783	68,189	76.0	37.9	39.7	11.0	24.0
15 Argentina	1965	1,341	...	92.8	[2]55.0	[2]26.4	[2]18.6	7.2
16 Yugoslavia	1965	1,192	[1] 9,800	87.2	54.8	27.4	16.4	12.8
17 Chile	1964	1,078	4,566	89.0	31.1	15.9	18.0	11.0
18 Jamaica	1964	1,066	685	88.3	51.7	27.5	7.6	11.7
19 Mexico	1965	977	17,600	[5]99.3	[7]40.3	[7]12.5	[7]12.7	[5]0.7
20 Guyana	1965	811	160	86.4	71.4	13.3	2.5	13.6
21 China (Taiwan)	1965	654	2,292	85.6	38.8	34.0	12.5	14.4
22 Colombia	1964	494	4,911	96.9	52.4	22.1	17.9	3.1
23 Ecuador	1965	212	967	86.3	41.3	21.1	32.3	13.7
24 India	1963	170	36,120	84.4	24.9	44.2	19.3	15.6
25 Kenya	1964	129	[8]788	95.7	59.0	25.9	11.2	4.3
26 Ceylon	1965	114	1,449	95.1	...	...	...	4.9
27 Paraguay	1964	105	352	[9]96.4	56.0	19.9	18.2	[9]3.6
28 Ghana	1961	92	[10]1,411	80.9	37.8	22.0	16.2	19.1
29 Pakistan	1964	86	8,946	54.6	47.3	22.2	17.7	45.4
30 Sierra Leone	1964	70	285	[9]87.9	[11]50.0	[11]36.4	[11]13.6	[9]12.1
31 Malawi	1965	42	174	78.9	58.7	29.8	7.4	21.1
Mean for group 1 - 16:				83.6	39.3	30.0	17.2	16.4
17 - 31:				87.1	47.3	24.8	14.8	12.9

1. Net material product
2. Not including public expenditure for private education
3. Including West Berlin
4. Debt service of local authorities only
5. Expenditure of Ministry of Education only
6. Including scientific research
7. Including capital expenditure
8. Gross domestic product at factor cost
9. Expenditure of Central Government only
10. Gross national product
11. Teachers' salaries only

in the lower half. Six of the richer countries spent more than 20% for education at the third level but only one of the poorer countries. The first sixteen countries of this rank order spent an average of 30% on second-level education as compared with 25% in the remaining countries. It need hardly be said that these percentages are only very rough indications of changes considering the variations in definitions, functions and unit outlays from country to country. In particular, the breakdown of educational expenditure allocated at the first, second and third level respectively still presents a very imperfect standardization (1) considering the whole variety of national school systems which have grown up independently.

One should, moreover, keep in mind that these patterns of a shift towards higher levels of education in the course of economic development are of very little help in solving the frequently discussed problem of an "optimum balance" between different levels of education (2). We can say that a given country spends relatively much or little on higher education, compared with other countries at a similar stage of development. But to infer that it spends too much or too little on higher education would require detailed knowledge of the functions of education at this level in the particular culture.

For purposes of international comparability, shifts towards more or less centralization in educational finance are even more divergent and more difficult to describe than other changes in the composition of this expenditure. Most of the eight countries selected for Table 16 show between 1953 and 1965 some increase of the share financed by provincial, State or federal government. This corresponds to a general long-term development that brings education more and more into the sphere of national interest and away from local politics. A stronger participation of the central or federal government in the development of education is considered necessary in order to gain as much uniformity as is required for unimpeded internal migration. National interest is also seen in planning for efficiency of education and in fairly equal educational opportunities throughout the nation regardless of the financing power of State and municipal units.

Local and State responsibility for educational expenditure, on the other hand, is said to be a neccessary counterweight to the inherent dangers of centralization (3). In many respects more knowledge of educational conditions and more interest in financing education seem to be found or can be developed at the lower levels of the governmental structure. This level has in many of the highly developed countries maintained a strong share in total spending on education.

Our data throw very little light on shifts of responsibility for educational finance from one government level to another. We should distinguish between political centralization of decisions in the planning of education on the one hand, fiscal centralization of financial resources on the other hand and finally pay attention to administrative centralization in running the educational system. These functions interact in a variety of ways (4). Transfers of finance between levels of government seem to play a considerable rôle. The activities of formal and informal interest groups contribute to increasing the existing complexity. National case studies should give us better insight into these multidimensional developments before we can hope to give a more significant outline of international shifts in the structures of educational finance.

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(1) The classifications of school systems, as developed by Unesco, OECD and the Council of Europe are discussed briefly in: Methods and statistical needs for educational planning; OECD, Paris 1967, pp. 185-189.

(2) PEASLEE, Alexander L.: Primary school enrolments and economic growth, in: Comparative education review, February 1967, pp. 57-67. BOWMAN, Mary Jean and ANDERSON, C. Arnold: Concerning the rôle of education in development; in: Old societies and new States. The Quest for modernity in Asia and Africa, Clifford Geertz (ed.), New York 1963, pp. 247-279. DEBEAUVAIS, Michel: The balance between the different levels of education; in: The economics of education, op.cit., pp. 523-546.

(3) Cf. SACKS, Seymour: Historical trends and present patterns in educational expenditure: constraints on planning for education in developed nations. In: The World yearbook of education 1967, George Z.F. Bereday and Joseph A. Lauwerys, (eds.). London 1967, p. 134.

(4) For the United States William P. McLURE has developed a model of these interactions: Structures of educational government. In: Perspectives on the economics of education. (Readings in school finance and business management, Harvard University.) Ch. A. Benson (ed.), Houghton-Mifflin Comp., Boston 1963, pp. 104 ff.

Table 15 *Expenditure on Education in the United States at Different Levels of Education 1909 - 1957. (Percentages)*

Year	Total Educational Expenditure	Of which :			
		Primary	Secondary	Higher	Other
1909	100	68.6	10.9	14.7	5.8
1911	100	67.2	12.3	14.7	5.8
1913	100	68.1	12.2	14.0	5.7
1917	100	61.8	18.6	14.9	4.7
1927	100	79.6		18.5	1.9
1929	100	78.6		19.6	1.8
1935	100	48.4	29.5	21.4	0.7
1937	100	47.1	30.6	21.7	0.6
1939	100	48.1	28.6	22.6	0.7
1943	100	46.8	27.7	24.8	0.7
1945	100	45.9	27.3	26.1	0.7
1947	100	41.3	27.3	31.0	0.4
1949	100	53.5	17.4	28.5	0.6
1951	100	51.9	22.1	25.4	0.6
1953	100	52.3	22.6	24.5	0.6
1955	100	51.4	23.4	24.9	0.3
1957	100	51.2	22.9	25.6	0.3

Source : EDDING, Friedrich : Expenditure on Education. Statistics and Comments. op. cit., p.49.

Table 16 *Public Expenditure on Education by Level of Government, selected countries (current prices ; percentages)*

Country	Years	Total	Of which: Central or Federal Government	Of which: Provincial or State Authorities	Of which: Country, city, district or other local Authorities
Canada	1953	100	5.2	43.5	51.3
	1956	100	7.9	44.2	47.9
	1957	100	8.0	46.2	45.8
	1958	100	8.4	47.4	44.2
	1960	100	8.3	47.8	43.9
	1961	100	9.0	47.2	43.8
	1962	100	16.0	48.8	35.2
	1964	100	11.7	51.3	37.0
	1965	100	11.6	52.8	35.8
China (Taiwan)	1953	100	3.7	40.7	55.6
	1954	100	7.1	29.7	63.2
	1957	100	13.7	31.2	55.1
	1958	100	13.0	29.6	57.4
	1959	100	12.3	29.1	58.6
	1961	100	13.6	28.2	58.2
	1962	100	12.8	27.7	59.5
	1963	100	13.4	27.0	59.6
	1964	100	13.3	27.0	59.7
	1965	100	14.5	26.9	58.6
Colombia	1954	100	44.5	44.0	11.5
	1957	100	37.5	49.5	13.0
	1959	100	41.2	47.6	11.2
	1961	100	48.4	41.7	9.9
	1962	100	48.0	44.2	7.8
	1963	100	47.4	45.8	6.8
	1964	100	46.4	46.8	6.8
Hungary	1960	100	40.9		59.1
	1961	100	40.9	–	59.1
	1962	100	41.6	–	58.4
	1963	100	41.7	–	58.3
	1964	100	65.9	–	34.1
	1965	100	60.4	–	39.6
India	1953	100	5.8	81.8	12.4
	1955	100	9.1	78.7	12.2
	1956	100	9.6	78.4	12.0
	1957	100	10.1	80.1	9.8
	1960	100	11.8	79.4	8.8
	1961	100	10.5	80.5	9.0
	1962	100	9.0	81.8	9.2
	1963	100	– 91.9	–	8.1

Country	Years	Total	Of which:		
			Central or Federal Government	Provincial or State Authorities	Country, city, district or other Local Authorities
Italy	1957	100	84.8	2.5	12.7
	1958	100	83.5	2.6	13.9
	1959	100	81,1	2.6	16.3
	1960	100	77.0	3.0	20.0
	1961	100	74.6	4.8	20.6
	1962	100	76.4	4.7	18.9
	1963	100	77.1	4.0	18.9
	1964	100	80.1	3.0	16.9
	1965	100	80.9	2.5	16.6
Japan	1953	100	33.8	41.2	25.0
	1954	100	33.0	40.0	27.0
	1957	100	34.0	42.8	23.2
	1960	100	35.4	41.0	23.6
	1961	100	35.7	40.4	23.9
	1962	100	35.3	40.8	23.9
	1963	100	35.9	39.8	24.3
	1964	100	36.2	39.7	24.1
Sweden	1956	100	59.3	2.3	38.4
	1960	100	61.9	38.1	
	1961	100	63.5	36.5	
	1963	100	63.8	2.5	33.7
	1964	100	66.1	2.8	31.2
	1965	100	68.8	2.3	28.9

Source: Unesco Questionnaires on Statistics of Educational Finance and Expenditure.

Chapter C

APPROACHES TO INTERPRETATION

I. VALIDITY AND COMPARABILITY OF DATA

(a) Problems of definition

The interpretation of our figures is severely impeded by deficiencies and basic problems of comparability. Since international comparisons of educational expenditure are often used without any awareness of their limitations, it seems necessary to discuss this here at some length.

We begin with the more technical problems of definition. Educational expenditure comprises in national budgets and accounts different individual items. Thanks to the continued efforts of Unesco the reports sent each year to this organization show marked improvements in the comparability of coverage. But there is still a long way to go before these more technical problems can be regarded as solved. Many countries have to regroup and recalculate expenditures given traditionally in their accounts, in order to satisfy requirements of international comparability. Unesco regards this as an educational process promising benefits to all countries. But some governments or sub-agencies just do not see why they should go to all the trouble of recalculating.

We can assume that the main block of public educational expenditure, that is the recurrent outlay on public schools, is the most solid part of our figures from the point of view of coverage. But even in this part some divergencies occur, mostly at the fringes. First-level and pre-school education are in many cases not clearly separated. Infant school and kindergarten systems may be combined and accounted for in different ways by different agencies. Expenditure on ancillary services such as meals, board, transport, health care, constitute another source of divergence in coverage.

Here and in the question of inclusion or exclusion of teachers' pensions we have also differences in the point of view taken. Can expenditures other than instructional be regarded as having an effect on education? Does some educational service correspond indirectly to pensions? Pension systems differ from country to country. In the Federal Republic of Germany, for instance, pensions have been excluded from education accounts since 1963. This item constituted roughly one fifth of all personnel expenditure in public schools. In France, however, teachers' pensions were always paid out of a general pension budget and not accounted for in the budget of the Education Ministry. Public pensions or public contributions to pensions have often been regarded as part of teachers' salaries. If there are no public pensions or contributions to pension funds, the salaries paid to teachers are likely to be relatively higher. As long as there is no general agreement on how and where to account for pensions, distortions of international comparability are inevitable.

Capital expenditure on schools is often not financed by education authorities but by some other agency, for instance a special ministry for construction. In addition, many developing countries, particularly those with a French-type budgeting system, are accustomed to separating all capital expenditure from current or "ordinary" expenditure by means of a special "developmental budget". If the expenditures on school construction are reported properly to Unesco, one may still doubt whether the initial expenditure on buildings distributed irregularly over the years, can be compared internationally, in particular if comparisons are made of total outlay per pupil in one year. On the other hand buildings may be considered as educational tools like demonstration equipment and learning machines. We have, so far, no international agreement on the fixing of depreciation rates nor on methods of annualizing capital expenditure including maintenance costs. We can, therefore, only point out that these expenditure items are probably another cause of unsatisfactory comparability.

Private formal education is in many countries non-existent, whereas in other countries it constitutes a large part of the total educational enterprise. The Unesco standard questionnaire does differentiate between public and private expenditure on private educational institutions but for a large number of countries figures on private subsidies for private education are not available. The public payments may finance anything from ten to a hundred per cent of the total outlay of private institutions. A similar problem is posed by the differences in organizing vocational education. Countries having an old tradition of apprenticeship tend to let industry and trades finance all or most of the cost of vocational education. Other countries include a large part of vocational education in the curriculum of secondary and post-secondary schools.

The systems of teaching and learning beyond the secondary level show to some extent similar problems of comparability. But they add new questions. Higher education contains a component of organized research and of public health institutions, that differs considerably in proportion from country to country. But there is, as yet, no international agreement on how to separate these functions and where to account for them in comparative international surveys.

Student aid is another problematic item. Scholarships are sometimes regarded as payments for services, the service being the student's contribution to the formation of the human capital required for general social development. Others regard scholarships as transfer items that should not be included in the total of educational expenditure, all the more so, as scholarships are often used to pay fees. Some experts refute the whole concept that there should be a service corresponding to all payments included in educational expenditure. They argue that it is impossible to measure educational activities in terms of marginal productivity, or to base teachers' salaries on such a concept. However one regards these problems, there can be no doubt that scholarships and similar "transfers" constitute a very different proportion of educational expenditure in individual countries. One has to view this in connexion with differences in fee requirements, subsidies to auxiliary services and tax exemptions. We know little on how these various possible measures of financing education interact in the countries whose educational expenditure we are investigating.

For the countries we selected for our sample we can give no guarantee that the problems of definition we have mentioned so far, have been satisfactorily solved. It seems probable that even in this group of countries the comparability of the expenditure amounts is limited to some big items of expenditure which constitute the larger proportion of total outlay. But we have made sure that at least for these selected countries we have the full coverage of all levels of government, central or federal, State or provincial and, last but not least, the community level. It seems, however, as if local expenditures have not always been included in the reports to Unesco. The collection of all the figures from local accounts often takes a much longer time than the assessment of central expenditure. Even on the central level, final reports on expenditure are sometimes given only after a long time-lag. Some countries, therefore, report to Unesco not actual expenditure but budget figures (1), that is appropriations or intended allocations to education. They have been found to be, in some cases, very much higher than actual expenditure.

Each figure of educational expenditure has to be understood as a component of a particular social and organizational system. Some countries leave a lot of formal education to private institutions, to firms, to trade unions. Others have almost all education financed publicly. Since, as a rule, a large part of private educational expenditure is not reported to Unesco, there must be big differences in the proportions of total educational efforts covered. Some of these differences may not affect international comparisons of outlay per student or per graduate of certain institutions, but they are bound to distort comparisons of "total" educational expenditure in proportion to other national aggregates.

(b) Purchasing power of expenditure on education

Our data on expenditure are reported in current prices and in national currencies. If we use them without standardization for intertemporal comparisons and for international comparisons of national trends, we neglect an important factor of change. Price changes are likely to be very different from country to country and may distort considerably the comparability of expenditure developments. Previous studies have tried to avoid this distortion by using national indices of living cost or of retail prices or some other general national price index as a deflator. But this procedure is not adequate (2). Some investigations have shown that the prices of goods and services used for education changed in quite a different way from prices in general.

Table 17 exemplifies this for the Federal Republic of Germany. It is based on the calculation of special price indices for the various goods and services used in education and their computation into one index of educational price changes. This index is compared with the general cost-of-living index and with the price index of the Gross National Product. The differences in increase between 1950 and 1962 are striking. The education price index rose almost five times as much as the cost-of-living index and more than twice as much as the GNP price index. If this education price index is used to recalculate expenditure on education in the Federal Republic of Germany at constant prices, we get the results shown in Table 18. It can be seen that a deflation which applies the general cost-of-living index to counteract the effect of price

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(1) See country tables in Annex I.

(2) For the theoretical and technical problems of constructing an education price index, see: William WASSERMAN: Education price and quantity indexes, Syracuse 1963.

Table 17 *Germany, Federal Republic of (incl. West Berlin) : Trend of Alternative Price Indices (1954 = 100)*

Year[1]	Education Price Index	Cost-of-Living Index	GNP Price Index
1950	69.2	92.4	85.9
1951	79.5	99.6	94.9
1952	87.2	101.7	100.1
1953	95.0	99.9	99.9
1954	100	100	100
1955	105.6	101.7	102.2
1956	114.0	104.3	105.4
1957	120.9	106.5	108.7
1958	129.2	108.8	112.6
1959	130.1	109.0	114.5
1960 a	139.4	111.4	117.9
1960 b	139.9	111.4	118.0
1961	150.4	114.2	122.9
1962	157.0	118.2	128.1
Increase in %	126.9	27.9	49.1

1) 1950 - 1960 a excluding the Saar.

Source : PALM, Günter : Die Kaufkraft der Bildungsausgaben. Ein Beitrag zur Analyse der öffentlichen Ausgaben für Schulen und Hochschulen in der Bundesrepublik Deutschland 1950 bis 1962. Walter-Verlag Olten und Freiburg, 1966, p. 66.

Table 18 *Expenditure on Education, adjusted for Changes in the Price of Inputs ; Germany, Federal Republic of (incl. West Berlin), 1950 to 1962*

Year[1]	Education Price Index	Expenditure on Education: In Current DM	In Constant DM (Education Price Index)	(Cost-of-Living Index)
1950	69.2	2,473.2	3,572.4	2,676.4
1951	79.5	2,992.2	3,767.2	3,004.2
1952	87.2	3,519.3	4,035.0	3,460.5
1953	95.0	4,069.6	4,283.2	4,073.7
1954	100	4,466.9	4,466.9	4,466.9
1955	105.6	4,931.7	4,668.1	4,849.3
1956	114.0	5,613.4	4,922.0	5,382.0
1957	120.9	6,094.9	5,040.7	5,722.9
1958	129.2	6,794.7	5,259.5	6,245.1
1959	130.1	7,182.9	5,519.7	6,589.8
1960 a [2]	139.4	6,065.3	4,350.3	5,444.6
1960 b [2]	139.9	6,244.0	4,462.3	5,605.0
1961	150.4	9,165.5	6,095.3	8,025.8
1962	157.0	10,263.8	6,539.4	8,683.4

1) 1950 - 1960 a excluding the Saar.
2) Fiscal year of 9 months.

Source : PALM, Günter : Die Kaufkraft der Bildungsausgaben, op. cit., p. 66.

changes exaggerates considerably the actual increase in educational expenditure.

Among the first to calculate a special price index for educational expenditure was John E.Vaizey (see Table 19). He described the procedure in detail in his book "The costs of education" (1955), covering the development in the United Kingdom from 1920 to 1955. Recently he (together with John Sheehan) continued these calculations for ten more years (1). For the Soviet Union we have the calculations of Harold Noah, shown in Tables 20 and 21. These studies make it probable that the purchasing power of educational expenditure develops differently from nation to nation. We have so far no comparative study that shows the extent of these differences and analyses their causes (2). From what we know at present we conclude that the effects of salary increases connected with changes in the general salary level are particularly strong in educational price developments, because salaries account for the largest part of current educational expenditure. Salaries follow partly movements in real National Product per Capita, partly changes in living costs, but they also reflect to some degree the effect of relative scarcity or surplus of teachers. All these factors follow a different pattern from country to country. So do the factors influencing the prices of goods used for education. International parallelism in movements of educational price indices is not to be expected.

If unadjusted amounts of educational expenditure are converted into a common currency unit, usually into US dollars, the particular differences in the purchasing power of educational expenditure are not expressed. The official exchange rates used for conversion calculations account at best for the general differences in the purchasing power of national currencies. This can be shown partly by comparing the relation of average annual teachers' salaries to the Gross National Product per head. M.C. Kaser (3) has computed such "aliquots" for some 10 industrialized countries:

Average annual teachers' salaries in relation to GNP per head

Country	Year	Primary education	Secondary education
Australia	1954	2.04	2.39
Belgium	1952	1.60	3.25
Canada	1951	1.86	2.19
France	1952	2.10	3.01
Italy	1952	2.07	3.88
Japan	1952	2.45	3.23
Netherlands	1950	2.16	2.84
Norway	1952	1.80	2.19
Sweden	1952	2.74	3.31
U.S.A.	1950	1.60	

Note: for various reservations see original source.

Even for this limited number of countries where the economic and social conditions of teachers' remuneration are supposed to be rather homogeneous, the relation of average teacher's salary to GNP per head varies considerably. In some of the poorer countries the very same relation has been found to rise to a factor of 20 or higher, primarily as a consequence of scarcity of teachers in the society and of the high esteem in which they are held.

In spite of the relatively low "aliquot" in the United States the amount of the average teacher's salary paid is much higher there than in most other countries, if the official conversion rate is applied.

It follows that, regardless of more or less perfect standardization of concepts used, the international differences in the purchasing power of educational expenditure pose a serious problem of comparability. As long as it is not solved by special price indices and conversion rates, any direct international comparison of educational expenditure per capita appears meaningless for any purpose. Without standardization as regards purchasing power, the value of international comparisons of intertemporal changes and trends must be considered doubtful (4). Since our data are not standardized as regards purchasing power we can use them only tentatively and drawing attention to general lack of comparability. This is true also of expenditure figures related to the Gross National Product or other national aggregates. In this case, differences in conception and prices of the National Product add to the problems of coverage and purchasing power of educational expenditure.

(c) Effectivity

Previous studies in this field have rarely restricted themselves to describing rates of growth of educational expenditure in relation to changes in other sectors of public spending. As a rule, these studies - whether they stated it or not - had in view the significance, in terms of results achieved, of

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(1) VAIZEY, John E., and SHEEHAN, John: Resources for education. An economic study of education in the United Kingdom, 1920-1965. London 1968.

(2) A major effort in this direction has been currently undertaken by VAIZEY, John E., and collaborators: Aspects of the costs of education in Portugal, Canada, U.S.A. and Ireland. (Forthcoming).

(3) KASER, Michael C.: Education and economic progress: experience in industrialized market economies; in: The Economics of education, op. cit., pp. 89-173.
See also COOMBS, Philip H.: The World educational crisis - a systems analysis. Paper delivered to the International Conference on the World Crisis in Education, Williamsburg, IIEP, Paris 1967, (Mimeographed), p. 72.

(4) PALM, Günter: International comparisons of educational outlay: Problems and approaches; in: International Social Science Journal, Vol. XX, No. 1, Unesco, Paris 1968, pp. 98-109.

Table 19 *Public Current Expenditure on Education, adjusted for Changes in the Prices of Inputs: United Kingdom, 1920 to 1965*

Year	Education Price Index	Cost-of-Living Index	Public Expenditure on Education In Current £	Public Expenditure on Education In Constant £ (1948 = 100)
1920	47		65.1	100.2
1921	59		84.6	128.1
1922	66		88.2	142.3
1923	63		83.6	136.1
1924	63		83.2	136.1
1925	66		84.1	141.3
1926	67		85.3	144.6
1927	68		85.8	147.0
1928	69		86.3	148.2
1929	71		89.7	152.3
1930	71		92.8	152.9
1931	77		95.7	164.8
1932	77		93.3	166.2
1933	74		87.4	158.7
1934	75		88.7	161.3
1935	74		92.7	158.4
1936	74		98.1	159.2
1937	75		101.3	161.2
1938	77		104.4	165.0
1939	75		106.3	161.2
1940	72		107.5	154.9
1941	68		107.4	147.3
1942	67		114.6	145.2
1943	65		117.0	139.9
1944	65		123.2	139.3
1945	67		143.9	144.6
1946	83		168.1	178.9
1947	93	94	190.3	200.3
1948	100	100	215.3	215.3
1949	113	102	244.1	243.9
1950	122	105	272.0	263.0
1951	113	114	281.7	244.4
1952	125	125	332.7	269.3
1953	133	132	363.3	287.3
1954	131	135	377.1	283.0
1955	141	140	410.6	300.0
1965	210	186	1,114.9	451.4

Note : Expenditure exclude Transfer Incomes arising from Aid to Students and Teachers' Superannuation as well as Capital Expenditures.

Source : VAIZEY, John E., SHEEHAN, John. Resources for education. London 1968.
UN Statistical Yearbook. Department of Economic and Social Affairs, Statistical Office of the United Nations, New York.

Table 20 *Index of Prices of inputs entering general Education, USSR. selected years, 1940 to 1960 (1940 = 100)*

Year	Index of State Retail Prices for Non-food Commodities	Weight	Weighted Index	Index[(a)] of Wages	Weight	Weighted Index	Price Index of Inputs into General Education $\frac{\text{Columns } 4 + 7}{100}$
1	2	3	4	5	6	7	8
1940	100	17	1,700	100	83	8,300	100
1950	161	17	2,637	200	83	16,600	192
1952	152	15	2,280	200	85	17,000	193
1955	131	18	2,358	200	82	16,400	188
1956	130	20	2,600	200	80	16,000	186
1957	130	22	2,860	200	78	15,600	185
1958	130	23	2,990	200	77	15,400	184
1959	129	26	3,354	200	74	14,800	182
1960	127	29	3,683	200	71	14,200	179

(a) Estimated.

Source: NOAH, Harold J.: Financing Soviet Schools. Studies of the Russian Institute. Columbia University, New York 1966.

Table 21 *Nominal Expenditures for general Education adjusted for Changes in the Price of Inputs USSR, 1940, and 1950 to 1961*

Year	Index of Input Prices	Total Expenditures		Expenditures per Pupil	
		In Current Roubles	In Constant [(a)] Roubles	In Current Roubles	In Constant [(a)] Roubles
		(in billions)			
1940	100	11.87	11.87	325	325
1950	192	30.40	15.31	844	439
1951	(192)[(b)]	31.29	16.30	894	465
1952	193	31.65	16.92	930	482
1953	(191)[(b)]	32.23	16.87	964	507
1954	(189)[(b)]	32.73	17.21	992	519
1955	188	33.54	17.84	1,057	560
1956	186	34.53	18.57	1,078	579
1957	185	37.62	20.32	1,150	622
1958	184	39.79	21.62	1,170	636
1959	182	44.35	24.37	1,233	689
1960	179	50.02	27.94	1,273	709
1961	(177)[(b)]	56.1	31.69	1,314	742

(a) Constant (1940) roubles.

(b) Index numbers for the years 1951, 1953, 1954, and 1961 are interpolated.

Source: NOAH, Harold J.: Financing Soviet Schools. Studies of the Russian Institute. Columbia University, New York 1966.

varying amounts of proportions of educational expenditure. They were thinking of their influence on the quality of education and on future social developments in general. They were often inclined to regard the level of spending on education as almost identical with the results expected. In fact, however, absolute and relative expenditure figures in themselves can tell us very little about results.

The effects of equal amounts of educational expenditure and equal relative efforts in educational spending can be quite different from country to country. For individual educational institutions such differences have been measured by comparing the outlay per unit of output, e.g. per graduate (1). There is no absolute proof but much circumstantial evidence supports the hypothesis that there exist similar productivity differentials (2) also between national systems of education which are supposed to spend equal amounts of standardized expenditure in order to reach identical targets. These differentials are assumed to be explained by the curricula chosen, by the methods and means used and by the incentives given to teachers and students. The educational system is then seen as secluded from the outside world. Its targets are fixed and the efforts to reach these targets are regarded as the measure of efficiency. One may call this a fictitious internal efficiency, because it is obvious that the internal factors mentioned cannot explain fully the differences in results of education. Outside factors have to be considered as well, e.g. the importance of the social background of students and teachers for their intellectual development, the social conditions influencing the selection of students and teachers, the motivation for teaching and learning performance provided by the world outside formal education.

Assuming that the internal efficiency of an educational system could be expressed by the amounts of outlay used to achieve certain results, as measured in numbers of graduates, pupil-hours or any unit at all, one would still have to ask how these results or targets are determined and how they are linked to other recognized goals of the community. There is a tendency in many educational systems to claim a kind of autonomy in target setting. It can then happen that there is a high efficiency in attaining internally fixed targets. But these same educational systems may have a low social or external efficiency because in choosing the targets, social needs, goals and developments were neglected. There seem to exist educational systems which give the impression of fair internal efficiency but have little positive influence in terms of social needs. One example of this is the considerably high output of graduates in higher and secondary education in some developing countries which, on the one hand, makes for a high internal efficiency but, on the other hand, generates a huge unemployed "academic proletariat". Obviously, one reason for this discrepancy between internal and external efficiency lies in a lack of co-ordination between educational targets and occupational structure. Another cause is the negative attitude of graduates towards work in rural areas.

There is also some evidence that unfavourable environmental conditions, such as social tensions, bad housing and widespread unemployment, outbalance educational achievements of internally efficient schools. It should be mentioned finally that an educationally favourable social climate can support and greatly enhance the performance of formal education and ensure for educational expenditure a high degree of productivity.

Besides the problems of definition and purchasing power we should therefore bear in mind the complex interplay between education and other social factors when we try to interpret past and possible future developments of educational expenditure in terms of social and economic results. Even if our figures were as well standardized internationally as technically possible, we could not assume that equal absolute or relative amounts of expenditure are likely to have equal effects. Technical deficiencies can be remedied, if adequate efforts are made. But our figures have also some inherent limitations. By definition they can tell us which funds have been made available in the sector of formal education, but not what will result from these funds in a long and complex social process.

Comparative analysis of educational expenditure as an isolated factor, therefore, can provide little help to the planner, who wants to know how much, in a given situation and time period, this expenditure should be increased in relation to other applications of public revenue. Only by combining our knowledge of educational expenditure with other evidence of educational and social developments and by finding out more about the determinants of changes in educational expenditure can we hope to gain some guidance for future action.

II. PROBLEMS OF INTERDEPENDENCY AND CAUSALITY

(a) A predetermined path of development?

Previous studies have tried to find out whether educational expenditure in a nation is in some way bound to a predetermined path of development. This has been done, for instance, in the middle of the fifties by ranking a number of countries (selected on the ground of data availability) according to their level of National Income per head and their public expenditure on education per head. (1)

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(1) See: HALLAK, Jaques (ed.): Educational costs and productivity. Contributions to an IIEP Seminar. Unesco International Institute for Educational Planning. Paris 1967 (mimeographed).

(2) The productivity differential is the increase of a compound target variable within an educational system, caused by a one-unit increase of educational expenditure (the instrument variable).

In the example given in Table 22 for the year 1954 eighteen countries are ranked in this way, beginning with the United States which spends sixty-nine dollars on public education, and ending with India which spends only half a dollar. The rank order of these eighteen countries according to their National Income per capita is almost identical, the correlation coefficient being + 0.992. (2)

The coefficient was + 0.984 for the same group of countries in 1950 and + 0.949 for twelve of these countries in 1938. In Table 23 a similar rank order is given for 28 countries around 1965. They also show a very close correlation of National Income and educational expenditure.

These tables can be used in the first place to demonstrate some basic limitations of educational expansion. The poorer countries cannot be expected to spend as much on education as the countries at the top of the rank order. Their small income per head is earned, as a rule, by producing the bare necessities of life. They have often difficulties in withdrawing from this income as much as 10 per cent for public spending. Even if the public sector is widened by foreign aid, the possibilities of expanding educational spending are very limited considering the many other demands on public revenue.

The constraints on spending for education seem less severe in the richer countries. But here, no less than in the poor countries total demands on the public treasury seem to grow at a faster rate than the total revenue. Those who want higher allocations for education have to struggle with many competing claims, however rich the country may be. Sweden, for instance, belongs to the richest nations and it almost doubled the proportion of educational expenditure in the National Product between 1950 and 1965. But if it continued this rate of growth of the educational sector it would have to spend in 1980 almost 13% of the social product on education. If the public sector continued to absorb the present proportion of about one third of the national product, this would mean that in 1980 about 40% of total public spending would go to education. One can imagine how difficult it would be to achieve this even in any affluent country. If one tentatively projects the growth rates of educational expenditure shown in Table 11 still further into the future, it becomes clear that there are limits to the relative expansion of education even if countries grow to be richer and richer. But it is impossible to estimate on the basis of the available evidence where and when this limit may be reached.

Rank orders like those exemplified in Tables 22 and 23 have been used also to demonstrate the "development path", and some implications of this concept. It is obvious that countries now at the bottom of the rank order can spend higher absolute and relative amounts on education as they move up in time to higher levels of income. In this way the data for one point in time for a group of nations have been interpreted as showing the path all countries will follow and continue to follow in their long-term development. The assumption has been made that countries are bound to follow this path, that they may jump occasionally a few steps at a time, as deviations from the rank order show, but that on the whole the "laws of development" are such that what a country can achieve in educational spending is closely bound to the level of income it has reached.

Under this assumption all countries would remain in the same rank order of educational spending as long as they all have the same rates of economic growth. Educational expansion is seen as following the change of National Income. The poorer countries would have a chance to approach the educational level of the richer countries only if they achieved relatively higher rates of economic growth. This implies that countries with stagnating economies or decreasing National Income per head could not hope to increase, let alone maintain, their level of educational spending.

Such a one-way interpretation of the correlation shown in Table 22 could not explain the behaviour of some countries which had obviously broken away from the assumed development path. These were not included in the rank order of Table 22, but mentioned at the time in the accompanying comment: "Exceptions to the close correlation are, in particular, educational investments in Japan and the Soviet Union. They form here a much larger part of the National Income (around 6 per cent in Japan and probably nearly 8 per cent in the Soviet Union) than one would expect from National Income per head. It is obvious that here a strong will to improve the position of the country within a short period of time is leading to exceptional efforts, made possible by a relatively low level of consumption". (3)

The term investment in this quotation did not mean capital expenditure. Total educational expenditure is seen here as an investment that can cause economic growth. In the years following this first analysis of international developments of educational expenditure a number of studies have

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(1) EDDING, Friedrich: Internationale Tendenzen in der Entwicklung der Ausgaben für Schulen und Hochschulen. (International Trends in Educational Expenditure.) Kieler Studien 47, Kiel 1958.

(2) The Bravais-Pearson-correlation coefficient is defined as

$$r = \frac{\Sigma\ (x_i - \bar{x})\ (y_i - \bar{y})}{\sqrt{\Sigma\ (x_i - \bar{x})^2\ \Sigma\ (y_i - \bar{y})^2}}$$

where x_i and y_i denote the respective variables and $\bar{x}$, $\bar{y}$ their arithmetic means.

(3) EDDING, Friedrich: International Trends in Educational Expenditure, op. cit., p. 160.

Table 22 *Public Expenditure on Education per Head of Population and National Income per Head of Population in Selected Countries 1954 (National Currencies converted into US $ using official exchange rates)*

Country	National Income per Head	Educational Expenditure per Head
1 United States of America	1,866	(1) 68.83
2 Canada	1,285	(2) 44.33
3 New Zealand	1,081	(3) 37.22
4 Sweden	1,016	(4) 36.18
5 United Kingdom	797	(5) 30.85
6 Denmark	765	(6) 27.69
7 Norway	738	(7) 25.68
8 Finland	690	(8) 23.02
9 Germany, Fed. Rep. of	591	(10) 21.27
10 Netherlands	532	(9) 22.46
11 Ireland	426	(11) 12.67
12 Italy	322	(12) 8.95
13 Colombia	294	(14) 5.04
14 Brazil	282	(13) 6.44
15 Portugal	174	(15) 2.73
16 Honduras	158	(17) 1.68
17 Ecuador	133	(16) 2.02
18 India	58	(18) 0.52

Source : EDDING, Friedrich : Internationale Tendenzen in der Entwicklung der Ausgaben für Schulen und Hochschulen, op. cit., p. 23.

Table 23 *Expenditure on Education per Head in Relation to National Income per Head in 28 Countries around 1965 (US $)*

Country	National Income per Capita		Educational Expenditure per Capita		Educational Expenditure as % of National Income		Total Population (1 000)
U.S.A.	(1)	2,909	(1)	188.53	(6.5)	6.5	194,592
Sweden	(2)	2,197	(2)	165.24	(2)	7.5	7,734
Canada	(3)	1,841	(3)	156.21	(1)	8.5	19,604
Germany, Fed. Rep. of	(4)	1,452	(8)	64.91	(16.5)	4.5	59,041
United Kingdom	(5)	1,451	(4)	93.30	(8)	6.4	54,595
France	(6)	1,440	(6)	82.57	(9)	5.7	48,919
Belgium	(7)	1,296	(5)	92.32	(5)	7.1	9,464
USSR	(8)	930[1]	(7)	67.61	(4)	7.3	230,600
Italy	(9)	884	(9)	57.28	(6.5)	6.5	51,576
Poland	(10)	710[1]	(11)	35.77	(11.5)	5.0	31,496
Chile	(11.5)	574	(13)	20.91	(19)	3.6	8,591
Japan	(11.5)	574	(10)	42.38	(3)	7.4	97,960
Yugoslavia	(13)	502[1]	(12)	23.44	(14.5)	4.7	19,508
Mexico	(14)	412	(16)	11.10	(25)	2.7	42,689
Jamaica	(15)	393	(15)	12.19	(22.5)	3.1	1,788
Argentina (1962)	(16)	316	(14)	14.31	(16.5)	4.5	21,350
Colombia	(17)	281	(17)	8.63	(22.5)	3.1	18,068
Ecuador	(18)	188	(20)	6.59	(20)	3.5	5,150
China (Taiwan)	(19)	184	(21)	6.28	(21)	3.4	12,429
Morocco	(20)	174	(19)	7.41	(18)	4.3	13,323
Paraguay (1962)	(21)	163	(25)	2.75	(27.5)	1.7	1,854
United Arab Rep. (1961)	(22)	158	(18)	7.85	(11.5)	5.0	26,557
Ceylon	(23)	129	(22)	6.04	(14.5)	4.7	11,232
Sierra Leone	(24)	122	(24)	3.63	(24)	3.0	2,367
Pakistan	(25)	89	(28)	1.52	(27.5)	1.7	102,876
Kenya	(26)	85	(23)	4.14	(13)	4.9	9,365
India (1963)	(27)	78	(27)	1.64	(26)	2.1	460,487
Malawi	(28)	44	(26)	2.27	(10)	5.2	3,940

1. Net Material Product.

Source : UNESCO : Questionnaires on Statistics of Educational Finance and Expenditure. UN Yearbook of National Accounts Statistics. Department of Economic and Social Affairs, Statistical Office of the United Nations, New York. UN Demographic Yearbook. Department of Economic and Social Affairs, Statistical Office of the United Nations, New York.

stressed this point of view (1). These studies tended to give the correlation of National Income and educational expenditure another one-way interpretation. Education appeared to be the prime cause of economic growth. Politicians looking for instruments to accelerate economic development read into these studies the meaning that the more their countries spent on education the higher would be their rates of economic growth. Since in most of the earlier studies on the economics of education the reasoning was based mostly on aggregate data, they could be interpreted also as saying that any kind or composition of education would have this beneficial effect on economic growth. None of the authors of these studies has ever written or said this, but they have been so often interpreted that way. Therefore this conception of education as an investment giving high individual and social returns regardless of specific situations became a strong influence on actual developments. A considerable part of the large recent investments in educational expenditure might be influenced by interpretations of the kind just mentioned.

Another approach to interpretation of our figures is offered by cross-cultural research that abandons the early methods of correlating only two, or only a few variables indicating development. It attempts a more comprehensive analysis of all measurable indicators of social development, using multiple correlation and rank order correlation. One step in this direction is demonstrated in chart 14 showing the correlation of educational expenditure as a percentage of the Gross National Product with the consumption of energy per head. The emerging pattern of correlation is very similar to the pattern that would appear if we had chosen the teacher density or enrolment ratios as a substitute for the expenditure quotas on the horizontal axis and the number of telephones or of doctors per 1000 inhabitants on the vertical axis. If we correlate rank orders of educational activity and measures such as steel consumption, railway mileage, urbanization, as indicators of industrialization in the widest meaning of the term, the correlation coefficient is also very high. In the lower stages of development most indicators of economic as well as of educational activity show low values (in inverse ratio to: high birth rates, high infant mortality, high percentage of labour in agriculture). In the higher stages of development all the indicators (with the same exceptions) have higher values. Again some authors have been tempted to conclude that nations are bound to develop according to one rather restrictive pattern. According to this theory there is not much leeway for deviations from the norm. All the factors which, combined, characterize development are seen as moving along according to a predetermined pattern. In this more comprehensive approach, however, the data indicating educational efforts are no longer compared with the aggregate data of economic growth only. They are shown in their interdependence with a large number of factors which are closely correlated with each other and with the growth of the economic aggregate.

Let us now ask why the volume of educational activity, expressed in our figures, might be so closely related to a whole cluster of development indicators. We are drawing here on the work of scholars who have done cross-cultural studies by applying various methods of correlation, in particular rank order correlation, to a great number of indicators for development (2). We do not try to find out which specific causal force one or the other factor of development may have exerted. We are merely pointing out, on the basis of general experience and plausibility, some features of a pattern of interrelationship.

Some of the factors of development we are referring to are one-year inputs, or annual flows. Others indicate a level reached or a stock built up over years. The literacy level, for instance, is the result of long-continued efforts. The same is true of the number of teachers or physicians per 1000 of population. But the data of annual inputs also in a way indicate a level, in so far as they are a step in a sequence. Total educational expenditure is a comprehensive expression of organized teaching and learning activity. If it is given for one year only it nevertheless indicates a more permanent level of activity, because it needs many years to build up a system of education capable of absorbing and using the expenditure reported for one year. The educational activity serves, generally speaking, to develop human potential in a way not to be achieved by other means.

Educational expenditure per head correlates closely with a group of data indicating industrial development, for instance, steel and energy consumption per head, the share of Gross Domestic

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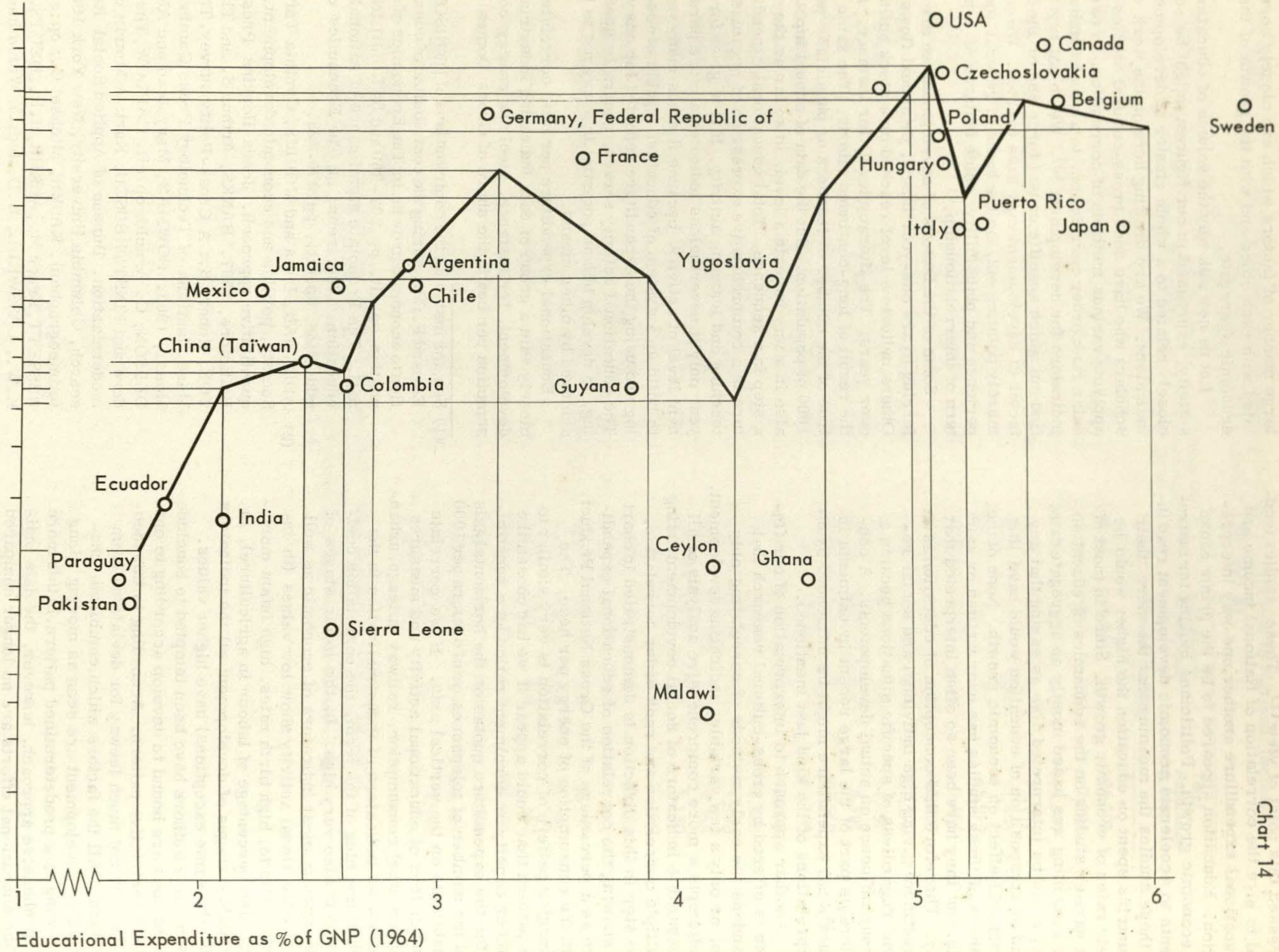
(1) See, for instance, the contributions of DENISON, Edward F.: Measuring the contribution of education to economic growth. In: The Economics of education, op.cit., pp.202-260 and STRUMILIN, S.G.: The Economic significance of national education. 1924, repr. in: The Economics of education, op.cit., pp.276-323.

(2) ADELMAN, Irma and MORRIS, Cynthia Taft: Society, politics and economic development. A quantitative approach. Johns Hopkins Press, Baltimore, 1967. BANKS, Arthur S. and TEXTOR, Robert B.: A Cross-Polity survey. The Mass. Institute of Technology Press, Cambridge, Mass., 1963. BOWMAN, Mary Jean and ANDERSON, C. Arnold; op.cit. CAPLOW, Theodore and FINSTERBUSCH, Kurt: A Matrix of modernization. Bureau of Applied Social Research, Columbia University, New York 1964, (mimeographed). KASER, Michael C.; op.cit. RUSSETT, Bruce M., ALKER, H.R., DEUTSCH, K.W., LASSWELL, H.D. (eds.): World handbook of political and social indicators. London 1965.

Chart 14


O USA
O Canada
O Czechoslovakia
O Belgium
O Sweden
O Germany, Federal Republic of
Poland
Hungary
O France
Puerto Rico
Italy
Japan O
Yugoslavia
Jamaica
Argentina
Mexico O
Chile
China (Taïwan)
O Colombia
Guyana O
Ecuador
O India
Ceylon
Ghana
Paraguay
Pakistan O
O Sierra Leone
Malawi
Energy Consumption per Head in 1964 (logarithms)
1
2
3
4
5
6
Educational Expenditure as % of GNP (1964)

Product originating in manufacture, the ratio of labour force to non-agricultural occupations, and the percentage of scientists, engineers and economists in the labour force. These factors correlate closely not only with educational expenditure per head but also with the number of teachers per thousand of population and with the enrolment ratio of 5-19-year-olds in schools. Inversely there is a strong negative correlation of all factors mentioned with the percentage of labour force employed in agriculture.

Industrial development as represented by the above-mentioned indicators depends on the will to achieve a knowledge of how to do it and a capacity for rational thinking, qualities rarely found in tradition-bound societies where usually very different attitudes, skills and values are passed from one generation to the next, and mostly without formal teaching and learning. In so far as formal education produces the spirit, the knowledge and the skills necessary for industrialization the close correlation of the factors involved seems fairly well explained.

Another set of indicators for development represents a complex described by terms such as urbanization, communication and mobility. This is measured in percentages of the population living in cities, in numbers of telephones, radios, television sets, cars and railway mileage per thousand of population, percentages of population changing residence in the country, and numbers of persons immigrating or emigrating per thousand of population. This complex has to do with the transition from life close to nature to life in artificial environments, from a life characterized by conservatism, slow growth, narrow outlook, to a life of high mobility, fast change in ever wider horizons and with ever growing possibilities of information. Again close correlation of the factors named with factors representing educational activity can be found and appears to be plausible. Inasmuch as formal education develops an appetite for change and information, mobility and ability to cope with conditions of urbanized life, the close correlation of educational indicators with factors in this cluster is to be expected.

Indicators such as infant mortality, life expectancy, doctors and hospital beds per 1000 of population stand for the development of health. They correlate highly with educational expenditure per head. Health seems to be functionally related to education inasmuch as education prepares for taking care of body and mind and provides qualified personnel like doctors, nurses and pharmacists. There are indications that modern life tends to increase psychopathic illnesses so that in the course of development more education is needed for health, even if infant mortality is reduced to a minimum and plagues no longer present such a problem.

The interdependency of all these factors with the level of economic activity expressed as Gross National Product or National Income per head is obvious. Industrialization, communication, urbanization and health are clearly necessary components in the process of economic growth. In so far as all these components are correlated with educational activity, it is to be expected that wealth and economic growth also will be closely correlated with indicators of educational efforts. Indeed, many calculations demonstrate this as a well established fact. The interdependency works in two directions. Education is a causal factor of economic growth in the ways just indicated and in other ways which are more difficult to show in figures. Economic growth, on the other hand, makes it possible to allocate increasing amounts of revenue for educational expansion and improvement.

Educational expenditure and educational efforts expressed by it increase not only because education is recognized as a necessary factor in development. Education is expanding also because it is wanted as a value in itself. It is wanted as an expression of, and a means to, political autonomy and cultural identity. It is wanted as a way of life. It is wanted as a status symbol. It would certainly be wrong to consider educational expansion mainly as a function of economic growth. In our attempt to interpret the causes for the continued strong increase of educational expenditure we had to stress its correlation with production and income. But we want to leave no doubt that for a full explanation of educational expansion in the past, and for a better understanding of how this may go on into the future, education has to be seen as a component of total social development, comprising cultural and political as well as economic necessities and ambitions.

We have to bear this in mind, when we ask once again, whether we can assume that there is a development path determining how societies can or must move through their histories, determining, inter alia, the volume of educational expenditure which should be spent in each phase of development.

We assume that nowadays all societies want to develop, that is, to move upward simultaneously the productivity of their labour force, their average income, the extent and quality of their public services, democratic participation in public activities, their status among other nations. If we accept the fact that all this is in some ways strongly dependent on attitudes, skills and knowledge to be attained by formal education, then it is logical to see increasing expenditure on education as one necessary condition of development (by no means sufficient in itself). But our figures cannot be taken as proof that there is a strictly determined path each society has to follow, if it wants development. Our figures can be interpreted as evidence that education as expressed by them has been in the past a complementary factor in overall development. Our attempts at interpretation make it highly probable that education will be such a factor also in the future. This means that the social productivity of other efforts of the society will suffer if education is not developed along with other sectors of social activity. It also means that the social productivity of educational expenditure is probably highly dependent on adequate and consistent simultaneous efforts in the other sectors of social development. Our figures can give, however, no indication of what may be an adequate amount of public expenditure on education in individual countries and particular situations. Only in loose terms some minimum of total expenditure on education per head and in relation to the national aggregate may be estimated on the basis of the figures given above, provided the figures on expenditure are well standardized as regards definition and purchasing power and the countries compared are rather similar in social, economic, and educational structure. These figures also do not explain why the proportion of public educational expenditure in the national aggregate has been for a long time increasing almost everywhere, and they give no answer to the question of whether this trend will continue.

(b) The rôle of decision making

Our interpretation, so far, has not done much to help those who have to make decisions on the allocation of resources. They can gain little from the knowledge that there is some circular causation pattern that includes among many other interrelated factors also the amounts spent on education. In fact, this notion of circular causation and synchronized movement of all factors of development could be used as an excuse not to make any strategic decision for development. It could strengthen the tendency of parliaments and governments to compromise by adding each year to each part of the total public budget an equal share of the available total increment of revenue. This pattern of perpetuating given proportions of budgetary distribution may, indeed, explain part of the regularity of developments we observe in our expenditure figures.

There is no way of proving that the given proportions of the budgetary distribution of public revenue were at any point in time optimal. The same is true of past rank orders of development indicators, which are often interpreted as showing the development path. The combinations of past allocations to the various sectors of social life has led to the present state of development. But there could have been other possible combinations and they might have resulted in a better present state of development. Taking the past development of education in industrialized countries as a guide for planning in developing countries may very well run the danger of reproducing there the past misallocations of these advanced countries. (1)

The correlation patterns we have been sketching are intriguing for the scholar and useful as a general orientation for planners, but they give no guidance for future action. More research should be done to find out what caused the deviations from the general track and what the consequences of such deviations may have been. The example of the Soviet Union is in this respect of particular interest. Somewhere at the end of the twenties the central authorities in this country seem to have decided to give a high priority to the sector of education: not to any education but to the kind of education considered effective for the particular goals of development accepted in the Soviet Union. It was decided that the strategic function of education was to achieve these goals. Consequently relatively large shares of available resources were allocated for educational purposes and those for other purposes were restricted. The number of cars and of telephones per 1000 of population remained relatively low, as did private consumption in general. There is no stringent proof that the high rates of economic growth to be observed in the Soviet Union later were the result of this decision made in the twenties.

Many other decisions have to be considered along with the educational policy. But attention should be given to the fact that this deviation from the close correlation between income level, other indicators of development and educational efforts, was possible and had, as far as we know, beneficial results.

Japan is another example of deviation that would be worth studying from these points of view. But there are also examples of countries doing, for many years, less for education than could be expected on the assumption of close correlation between the factors mentioned. The Federal Republic of Germany is such a case, inviting a thorough analysis. In any case, there is no proof either that relatively low expenditure on education slows down development. There might be situations where it is beneficial for social development to restrict public education and give preference to other sectors, for instance to measures for strengthening rural communities, clearing away slums and reorganizing the big cities. This, of course, could mean that environmental educational influences would improve.

We mentioned in the chapter on comparability that the effectiveness of educational expenditure presents in many cases grave problems. Since international comparisons of the growth patterns of educational expenditure are often interpreted as a recommendation to go straight ahead with the expansion of educational spending, a warning seems indicated that spending blindly for more formal education can be an obstacle to development. If, for instance, graduates of education can find no adequate employment or are so educated that they regard most of the occupations open to them as unsuitable, spending for this kind of education should rather be restricted.

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(1) See BLAUG, Mark: Approaches to educational planning. In: The Economic Journal, Vol. LXXVII, June 1967, p. 281

The concept of the "development path" becomes dangerous if it is used to obscure the fact that development requires decisions in particular situations. Our aggregate expenditure figures have been hardly anywhere the result of one decision on the national level to spend so much on education. They are rather the outcome of many more specific decisions. The decision maker may have been a person or group of persons deciding on local budgets or on budgets concerning bigger governmental units. There may have been a more or less complex regulatory system of decision making and the decisions made may have regulated not only a relatively narrow budgetary sector like the budget of education but possibly a multi-purpose system containing many interrelated elements. In any case there were real decisions to be made in order to regulate development and real persons responsible for these decisions. There was certainly error control by reactions from the multi-purpose system. If the decisions made were not consistent with other decisions in the same field or if they impeded developments in other fields there would be signals to the decision maker to revise the course of action. In any past development there were certainly also facts and attitudes predetermining or limiting decisions. It may be a promising task of historical and sociological research to find out what factors and values within the socio-political systems have led to what goals and typical attitudes in decision making for education. Cases of complete predetermination, that is, where cognizance was not taken of the various choices open nor of the responsibility involved, were probably rare exceptions. The hypothesis of an anonymous process of single moves integrated into the one predetermined development path or regulated by an invisible hand cannot be verified. If we look at the situation of those who have to make decisions now and in the future, there always seem to be various alternatives to choose from. But the belief in predetermination may induce decision makers to act as if there were only one way to go.

In the field we are investigating here knowledge about the processes of decision making is not well developed. Among the causal forces influencing educational expenditure this important component has so far attracted little interest or scholarly effort. This is, however, not the place to fill out the gap by a full discussion of decision-making mechanisms in connexion with educational policy. We merely want to direct attention to the fallacies of interpretation which are inevitable if the dangers of deterministic assumptions are not seen. Such assumptions have probably played a considerable rôle in educational policies during the period we are investigating and thereby in the expansion of educational expenditure in this period (1). It simplifies decision making if there is but one road and the only choice is whether to follow the far advanced countries or regions by slow or quick degrees. In fact, we have no proof that there is but one optimal road and much evidence to the effect that it is highly improbable that the one-road theory offers a course calculated to satisfy the diverse and complex needs of national, state and local development.

In the recent past there has been a widespread practice of deriving national targets for relative magnitudes of educational expenditure from international comparisons. To quote from Harbison and Myers (2): "In modern times, most nations tend to formulate their economic, social and political goals by comparing themselves with other countries..... For example, educational goals in many countries are based on the idea that the most backward regions should, in the future, be brought to the present average standard, or that the general standard, be brought up to the standard of the presently most advanced regions."

In one way or another international or interstate comparisons of educational efforts have an influence on decision making. They can lead to adaptive decisions as outlined above in connexion with the theory of the development path. But they can also induce decisions to break away from the traditional rank order and to enforce faster development by using education as the component promising the strongest influence for change of all other components of development. The partial dissolution of the former rank order demonstrated in Table 11 may be interpreted in this sense. There is no proof that the fast increase of the share of educational expenditure in the Gross National Product or in total public spending will have in every case the desired effect on overall development. It is often a decision made under conditions of much uncertainty. But it seems that the willingness to accept the risk and to give allocations to education a high priority has been a major factor in the developments outlined in Part B of this study.

This willingness has been induced partly by theories of economists characterizing expenditure on education in general as a particularly profitable investment promising high individual and social returns.[1] On the basis of this theory governments were led to believe that expenditure on education should be given a high priority in order to enable their country to compete wtih other nations on world markets and in the struggle for political power. The developing nations had an additional motive for spending heavily on education. They came to regard general literacy as a particularly important status symbol ensuring, more than other achievements, acceptance as an equal into the ranks of civilized nations. Some of these economic and political arguments are of very dubious value when applied without regard to individual situations. However, they had in the period investigated, a strong influence on decision making and are likely to remain powerful arguments in the foreseeable future. They explain a good deal of the strong increase in educational expenditure and make it probable that further strong increases are to be expected.

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(1) Financial planning for education in Hungary, for instance, makes use of intertemporal comparisons in setting targets for future expansion. For a detailed presentation of Hungarian planning techniques, see: FALUVEGI, Lajos: The planning of budgetary expenditure on education on the basis of a mathematical model - the method employed in Hungary; in: Public finance, Vol.XXI, No. 1,2; 1966, pp. 206-229.

(2) HARBISON, Frederick and MYERS, Charles A.: Education, manpower and economic growth: strategies of human resource development. McGraw-Hill series in international development, New York - Toronto - London (1964), p.203.

The economic argument for the development of education is mostly expressed in terms of labour requirements. Education, then, often appears as being mainly a function of manpower needs. The demand for qualified personnel is seen as the main motive behind the demand for educational opportunities and the provision of these opportunities. Individual earnings as well as National Income are treated as if they were caused largely by occupation-oriented achievements in formal education. Admission to careers and promotion is closely linked with graduation from certain types of formal education. All this together forms another pattern of causation in the development of educational expenditure. Although we do not agree with a strictly labour-market-oriented educational policy, we observe that arguments along these lines have contributed greatly to the expansion of formal education and educational expenditure and will probably continue to have this effect.

We have outlined above the many ways in which education can further development and is necessary for development. The preparation for occupational knowledge, skills and motivation is but one of these ways. To cater for manpower requirements, therefore, is to be regarded as an important but only fractional task of education. It should neither be underrated nor overrated. Many of the skills needed in developing countries, particularly in the rural areas, can be spread in the way of demonstration and imitation, without literacy and without institutions of formal learning. Many of the abilities required in modern industries and services can be, on the basis of general education, acquired during gainful occupation, either on the job or in short courses. There is no proof that manpower requirements by themselves justify the enormous increase of educational expenditure described above. Nor does the available evidence suggest that further educational expansion should be generally dominated by manpower needs.

There is again a danger of following inadvertently the theory of a predetermined path. Education, then, is often seen as a function of manpower needs and manpower demand as a function of anonymous processes of technical and general development. There is abundant evidence to show that manpower requirements have been and will be a factor whose interrelationship with other factors of development has to be given much attention in any educational planning. But more research is needed into the possibilities of shaping occupational opportunities according to educational developments.

In our general approach to the interpretation of interdependencies and causalities in connexion with educational expenditure we have now finally to discuss the powerful force of social demand. In this concept various causation patterns of educational expansion are interlinked. There is a strong drive that may be called "humanistic" demand, which aims at giving everybody the opportunity to develop fully his personal potential. Another strong motive can be characterized as "democratic" demand, stressing the right to get formal education and equal chances by education. This is usually also expressed as the right of society to impose a minimum education as compulsory. Social demand can express on the one hand the needs felt by individuals and on the other the needs of the society as the responsible leaders see them. The leaders claim to have better insight into future developments and social needs. Often there is much incongruity between the demand of individuals and the demand of society seen by governments, the governments, then, often taking the lead by showing individuals what their real needs are in the long-range perspective, and by offering attractive educational institutions in nearby locations.

These patterns together seem to form the most powerful component in the expansion of education and educational budgets. "The point of departure for this approach to educational planning is that access to all branches of education should be available to all those wishing to enter them who are qualified to do so, by ability and attainment. This is certainly the most frequent basis on which educational decisions are made, and even educational plans that purport to be based on other methods often base a large part of their estimates on what students and

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(1) BECKER, Gary S.: Human capital. A theoretical and empirical analysis, with special reference to education. Princeton University Press, Princeton, N.J., 1964. BLAUG, Mark: The rate of return on investment in education in Great Britain. In: The Manchester School of Economics and Social Studies. XXXIII (3), September 1965, pp. 205-262. BOWMAN, Mary Jean: Social returns to education. In: International Social Science Journal. Vol. XIV, 4, 1962, pp. 647-660.

their families are thought to be demanding" (1). This quotation from an OECD document is corroborated in the statement on social demand by the editors of the World Yearbook of Education 1967: "If the truth were told, nine tenths of educational planning around the world is of this type, despite all lip-service to the more sophisticated varieties of 'education as investment in economic growth'. In most underdeveloped countries, the demand for universal primary education is politically irresistible and solves most planning problems by absorbing 80 - 90 per cent of the budget set aside for education. The developed countries which have long ago achieved 100 per cent enrolment in primary education, face similar pressures in secondary and higher education..." (2)

Social demand as pressure for educational opportunities is, indeed, a world-wide phenomenon. As a comprehensive causation pattern it explains probably a large part of the expansion of educational expenditure in recent years and is likely to play a dominant rôle in the future. One should, however, be aware of the fact that social demand is not altogether a spontaneous force, but more or less a component of social development underlying political decision making and manipulation. We agree that the need for more and better education is almost unlimited, whether this is seen from a humanistic, democratic, or economic point of view. The gap between education needed and education possessed is formidable in all countries, even in the richest. But the resources available are not unlimited. It remains, therefore, always a question of policy as to how much the demand for education should be stimulated and how many should be led by formal education - and how far - in the development of their potential in order to fulfil personal and social needs. We cannot agree with the notion that social demand is mainly to be considered as a natural and therefore irresistible force leading nations to allocate an ever increasing share of their resources to education. We have to admit, however, that the practice of planning education has been, in the period studied, on the whole most strongly influenced by this concept of social demand.

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(1) OECD: Methods and statistical needs for educational planning. op.cit. p.17.

(2) BEREDAY, George Z.F. and LAUWERYS, Joseph A. (eds): The world yearbook of education 1967, Educational planning. London 1967, p.85.

Chapter D

ATTEMPTS TO QUANTIFY CAUSAL FACTORS BEHIND THE EXPANSION OF EDUCATIONAL EXPENDITURE

Our discussion, so far, has been concentrating on international differences and intertemporal developments of total public expenditure, giving some attention also to expenditure by level, purpose and territorial unit. We have further discussed some general causation patterns in this development. As a strong force of causation we discovered the belief in determination of the development path combined with the will to go along this path as fast as necessary in order to keep pace with the leading group of nations or to approach their level. We shall now look in more detail at some of the main factors that contribute to the aggregate development of educational expenditure.

I. THE COST FACTORS COMBINED

This can be done by presenting the factors which determine the proportion of total public expenditure on education in the Gross National Product in the following formula:

$$\frac{E}{GNP} = \frac{P_s}{P} \cdot r \cdot \frac{T}{S} \cdot \frac{E}{E_t} \cdot \frac{e_t}{GNP/cap.} \quad (1)$$

where $\frac{E}{GNP}$ stands for the proportion of total public educational expenditure in GNP, $\frac{Ps}{P}$ for the proportion of school-age population in total population, r for the average enrolment ratio, $\frac{T}{S}$ for the ratio of teachers to students, $\frac{E}{Et}$ for the ratio of total educational expenditure to teachers' salaries, and $\frac{et}{GNP/cap.}$ for average annual teachers' salaries in relation to GNP per head of total population. Obviously, this formula is not more than a mere identity. If we substitute $\frac{S}{Ps}$ for r and $\frac{Et}{T}$ for e_t, then the equation can be rewritten as follows:

$$\frac{E}{GNP} = \frac{Ps}{P} \cdot \frac{S}{Ps} \cdot \frac{T}{S} \cdot \frac{E}{Et} \cdot \frac{E_t}{T} \cdot \frac{P}{GNP} = \frac{E}{GNP} \quad (1a)$$

In this formula, the outlay per student ($\frac{E}{S}$) is split up into the components "teacher-student ratio" ($\frac{T}{S}$), "average teacher's salary" ($\frac{E_t}{T}$) and "ratio of total educational expenditure to teachers' salaries" ($\frac{E}{E_t}$).

Taking such an identity equation for an explanatory causal model would, of course, mean running into a methodological pitfall. But the formula can help to demonstrate how the mechanism of expenditure increase works in detail. As can be seen from the formula (1a), any isolated increase of one factor, holding all other factors constant, does not increase the share of educational expenditure in GNP because numerator and denominator change simultaneously. If, for instance, the teacher-student ratio were raised by an inflow of additional teachers ($\frac{T + \Delta T}{S}$), average annual teachers' salaries would decrease simultaneously ($\frac{E_t}{T + \Delta T}$), all other factors remaining constant. This, of course, means that the proportion of total educational expenditure in GNP ($\frac{E}{GNP}$) would not increase. Therefore, only a combined change of all the factors in our equation generates positive or negative expenditure effects.

1. We shall try to compare past developments of all five factors on the right side of equation (1), i.e. school-age population, enrolment ratios, teacher-student ratios, teachers' salaries and the ratio of capital vs. current educational expenditure.

(a) School-age population

The total number of young people has grown considerably during the fifties and in many countries is bound to grow even more during the next decade. In most countries of the world a decrease in this number - other than temporary - is not at present to be expected. The population of five to fourteen years will grow between 1960 and 1980 by 26% in

North America, by 20% in East Asia and 66.5% in South Asia, by 67% in Africa and by 80% in Latin America (1).

According to the same estimates, there will be moderate increases of 12 % in the USSR and of 2% in Europe. Japan is outstanding as an example of a decrease in school-age population. But in Japan, as in many other highly developed countries, the slowing down in population growth is likely to be compensated by the increased average number of years of formal education and by the spreading practice of life-long learning. As a rule, the school-age population has grown both absolutely and in relation to total population. Table 24 gives examples of some countries in 10-year periods between 1950 and 1965.

(b) Enrolment ratios

The increase of the age group five to fourteen would automatically be outbalanced by decreasing enrolment ratios, unless the number of students (and the number of places for them) kept pace with this trend. This is clear from equation (1a). A survey of enrolment trends during the past decade, however, shows that enrolment ratios have not only remained constant but, on the contrary, have gone up steeply. Table 25 gives the trend of combined enrolment ratios at the 1st and 2nd level, adjusted for length of schooling, in the 35 countries of our sample. In the decades to come, enrolment ratios in most countries are assumed to rise even faster. The political goal of universal literacy, the introduction, spreading and gradual prolongation of compulsory education, the increasing incentives of individual demand for places in educational institutions beyond compulsory schools, all this combines with demographic changes to bring about an accumulated growth of total student numbers and consequent pressure for more and more places in formal education.

To this we may add a more theoretical statement: assuming a constant global enrolment, total educational expenditure would nevertheless rise due to the marked shift of enrolment towards higher levels of education which we have shown in Chapter B of this study. Higher unit outlays in secondary and, in particular, higher education tend to result in a net increase of total expenditure on education, even if the total number of students does not grow.

(c) Teacher-student ratio

Again, if we look at equation (1a), the increase in student numbers could, ceteris paribus, be outbalanced by a proportionate lowering of the teacher-student ratio. But to assume that would be unrealistic. Past long-term trends show that personnel has been hired in numbers at least following in proportion the number of students enrolled. This, in fact, is the minimum target most education authorities try to reach. But the accepted goal is, in general, to increase these ratios, thereby providing more favourable conditions for teaching and learning.

Historically there is a clear long-range trend in most countries towards increasing teacher-student ratios at the 1st level of education. This tendency also emerges clearly from Table 26 which indicates, for selected countries, the number of teachers per 1,000 students in primary education between 1960 and 1965. But, as Tables 27 and 28 demonstrate, the trend is less marked or even inverse in higher and secondary education.

(d) Teachers' salaries in relation to GNP per capita

According to equation (1a), an increase of the teacher-student ratio would result in a fall of average annual teachers' salaries (e_t), if total funds spent on teachers' remuneration were not raised accordingly.

In all countries salaries and wages of teachers and non-instructional staff constitute the biggest single item of educational expenditure and in many cases this item is more than two thirds of total outlay on education. Salaries and wages for this personnel are almost everywhere determined by traditional wage structures, certainly not by any consideration of marginal productivity. In many cases they are state-fixed and stable because of only slight mobility to and from other occupations. But teachers' salaries, on the other hand, have to keep pace with changes in the cost of living and the average real income per capita. There is, moreover, in many countries an awareness of the fact that the ratio of average teachers' salaries to Gross National Product per head ($\frac{e_t}{GNP/cap.}$) will have to be raised if the length and quality of teacher training is on the average increased and if there is a relative scarcity of teachers.

Accordingly, intertemporal analysis shows in most countries a strong tendency for teachers' salaries at least to follow the increases of National Income or Gross National Product per head. We have already discussed this point above in connexion with the problems of comparability and purchasing power of educational expenditure (see Chapter C, II b).

Table 29 provides more evidence, showing the development of this ratio in three industrialized countries between 1950 and 1964.

Whether this trend which implies the provision of ever-increasing funds for teachers' remuneration is an indication of teacher shortage rather than of better teacher training, is not easy to decide. In any case it should be noted that the continuous improvement in teachers' qualifications is a phenomenon no longer restricted to the highly developed countries. In

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(1) COOMBS, Philip H.: The world educational crisis - A systems analysis; op. cit., technical annex, p. 15.

Table 24 *Average Annual Rates of Growth of Total and School - Age Population : Selected Countries (Percentages)*

Country	Total Population	Age Groups 5 - 14	15 - 19	20 - 24	Period Covered
Canada	2.38	3.36	5.97	2.91	1956-66
U.S.A.	1.70	2.65	5.66	3.08	1956-66
Belgium	0.63	2.13	1.85	- 1.37	1954-64
France	1.30	2.16	5.33	- 0.28	1955-65
Poland	1.43	3.82	2.67	- 1.82	1955-65
Sweden	0.65	- 1.05	3.97	3.78	1955-65
Ceylon	3.08	3.92	4.53	1.54	1953-63
China (Taiwan)	3.96	7.20	2.46	0.05	1955-65
India	2.30	3.25	- 0.01	1.65	1951-61
Brazil	3.50	4.06	2.98	2.34	1950-60
Colombia	4.28	5.73	4.12	2.37	1951-64
Ecuador	3.31	4.30	3.07	2.59	1950-62
Libya	4.35	5.65	3.12	3.52	1954-64

For Various Reservations, See Original Source.

Source : UN Demographic Yearbook.

Table 25 *Adjusted[1] School Enrolment Ratio for the 1st and 2nd Levels of Education Combined. Selected Countries, 1950-1964*

Country	1950	1955	1960	1964	Increase (%)
Ghana	15	28	32	61	306.7
Kenya	21 (1952)	24	41	50	138.1
Malawi	32	33	34	40	25.0
Morocco	12	17 (1956)	29	38	216.7
Sierra Leone	6	8	12	16	166.7
United Arab Republic	25	36	43	51	104.0
Zambia	27	29	37	43	59.3
Canada	71	79	81	83	16.9
Jamaica	69	68 (1956)	70	84	12.2
Mexico	40	47	58	71	77.5
Puerto Rico	72	90	92 (1959)	99	37.5
U.S.A.	100	102	102	105	5.0
Argentina	64	72	72	75	17.2
Chile	62	69	74	79	27.4
Colombia	30	41	50	62	106.7
Ecuador	41	47	53	60	46.3
Guyana	66	74	80	83	25.8
Paraguay	50	60	62	65	30.0
Ceylon	68	70	80	81	19.1
China (Taiwan)	47	57	74	80	70.2
India	21	25	34	41 (1963)	95.2
Japan	86	92	91	85	-1.2
Pakistan	20	23	26	32	60.0
Belgium	84	91	101	106	26.2
Czechoslovakia	76	79	85	86	13.2
England & Wales	75	82	81	93	24.0
Germany, Fed. Rep. of (excl. West Berlin)	91	87	83	88	-3.3
France	78	87	95	91	16.7
Hungary	77	74	79	80	3.9
Italy	53	57	59	64	20.8
Poland	70	68	85	90	28.6
Romania	47	50	71	87	85.1
Sweden	75	83	80	75	0.0
Yugoslavia	55 (1951)	58	75	85	54.5
USSR	83	...	78	100	20.5

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[1] For Details of Construction see Unesco Statistical Yearbook 1966, General Footnote, p. 59.

Source : Unesco Statistical Yearbook 1966.

Table 26 *Teachers Per 1 000 Students in Primary Education*

Country	1960	1961	1962	1963	1964	1965
France	34.64	35.53	35.66	42.52	31.21	33.83
Germany, Fed. Rep. of (incl. West Berlin)	33.86	34.40	34.26	36.18	35.85	30.02
Italy	44.55	43.01	46.40	46.44	46.31	45.27
United Kingdom	41.89	42.33	41.04	41.04	42.77	43.18
Czechoslovakia	40.63	40.30	40.45	40.29	41.79	43.19
Hungary	41.15	40.36	40.67	41.87	42.98	43.98
Poland	30.54	30.67	32.35	32.88	33.88	35.31
Romania	...	38.89	39.29	41.38	41.02	42.93
Yugoslavia	30.49	30.95	31.56	32.34	33.81	34.65
Japan	28.80	29.70	30.99	32.70	34.41	35.53
India	21.70	20.66	20.62	20.41	...	31.62
Pakistan	25.89	25.76	26.29	26.26	29.93	26.24
China (Taiwan)	21.91	23.32	23.25	24.01	24.07	24.18
Colombia	26.57	27.08	27.06	27.58	28.08	27.81
Ecuador	25.74	26.21	26.46	26.76	26.78	37.38
Mexico	22.75	21.86	22.54	21.60	21.74	21.43
Puerto Rico	...	23.98	23.40	24.56	25.02	25.80

Source : Unesco Statistical Yearbook.
For Various Reservations see Footnotes therein, Also Annex I of this Report.

Table 27 *Teachers Per 1 000 Students in Secondary Education*

Country	1960	1961	1962	1963	1964	1965
Germany, Fed. Rep. of (incl. West Berlin)	53.55	54.30	56.07	57.58	61.06	43.04
Italy	85.52	82.41	86.81	82.77	79.54	80.76
United Kingdom	41.29	...	43.66	45.05	...	...
Hungary	56.44	54.01	51.31	50.46	49.98	50.92
Romania	...	51.14	47.29	44.47	47.50	48.87
Yugoslavia	76.02	63.13	56.33	51.28	48.14	43.00
Japan	40.55	39.62	39.68	40.70	39.58	42.90
India	61.72	60.28	59.64	57.14	...	...
Pakistan	42.68	41.31	39.71	38.62	34.85	35.04
China (Taiwan)	47.04	44.26	43.07	42.02	40.78	39.62
Colombia	91.96	86.32	82.83	78.95	74.64	77.53
Ecuador	88.08	85.59	86.70	85.05	81.96	78.71
Puerto Rico	...	30.27	31.08	31.42	30.46	34.00
Kenya	66.48	63.91	...	57.41	55.39	55.50
Malawi	73.20	66.92	...	...	64.94	60.04
Sierra Leone	...	57.13	56.74	58.79	54.59	...

Source : Unesco Statistical Yearbook.
For Various Reservations see Footnotes therein, Also Annex I of this Report.

Table 28 *Teachers per 1 000 Students in Higher Education*

Country	1960	1961	1962	1963	1964	1965
Sweden	49.80	48.13	...	45.77	...	...
Italy	89.53	106.32	83.87	96.58	92.86	86.57
Czechoslovakia	113.94	105.78	119.33	98.98	123.05	132.37
Hungary	...	169.87	159.31	153.57	162.63	165.56
Poland	171.53	168.55	161.70	160.21	93.23	91.60
Yugoslavia	73.76	79.06	86.14	93.42	92.37	85.22
Japan	107.16	104.38	100.62	99.08	99.65	95.31
Ceylon	77.67	60.83	45.0	...	41.71	40.42
India	56.72	62.28	62.19	61.25	...	...
Argentina	47.67	54.40	65.52	62.66	63.38	63.14
Ecuador	121.24	113.73	120.89	126.70	129.02	114.06
U.S.A.	...	80.50	80.00	79.10	77.57	77.63

Source : Unesco Statistical Yearbook.
For Various Reservations see Footnotes therein, Also Annex I of this Report.

Table 29 *Average Annual Teachers' Salaries as Percentage of National Income per Capita (Current Prices)*

Year	U.S.A.[1]	Canada[1]	United Kingdom[2] Non-Graduates	Graduates
1950	190	185	201	215
1951	183	...	215	241
1952	184	...	200	224
1953	193	182	185	208
1954	206	...	205	236
1955	203	...	195	225
1956	203	199	180	207
1957	213	212	200	250
1958	227	230	192	241
1959	221	240	184	231
1960	229	256	192	249
1961	236	270	182	235
1962	234	271	209	263
1963	236	272	209	264
1964	234	...	193	244

1. Primary and Secondary School Teachers.
2. Male Primary and Secondary School Teachers only.

Source : STRASSER. Hermann : Volkswirtschaft, Bildung und Einkommen unter besonderer Berücksichtigung der Pflichtschullehrer, Dissertation. Innsbruck 1966.

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India, for instance, the percentage of trained teachers to all teachers rose from 58% in 1950 to 65% in 1960 with the percentage of graduate teachers to all teachers rising even faster over the same period (1950: 14.4%, 1960: 37%) (1).

(e) Capital and current non-salary expenditure

Finally, an increase of total resources spent on teachers' remuneration does not necessarily mean increasing total expenditure on education. In fact, if we consider again equation (1a), the ratio of total educational expenditure to the total of teachers' salaries constitutes the last link in a chain of combined increases of the factors mentioned.

In spite of the strong increase of total teachers' salaries which is an outcome of the various other tendencies discussed above, this ratio has not fallen. The opposite is the case. Tables 13 and 14 demonstrate very clearly that the proportion of current educational expenditure in total expenditure on education has continuously diminished in nearly all countries under consideration. Within current expenditure, the proportion of non-salary expenditure has risen at the same time. Outlays for transport, canteens, books, programmed instruction, laboratory materials, electricity etc., summarized under the heading "other current expenditure" very often claim 40% or more of total current expenditure.

The proportion of capital expenditure in total educational expenditure is also expanding steadily. Facilities have to be provided for the rapid expansion of student numbers; replacement needs and the needs caused by migration or decentralization add to this. Unit outlays for construction, equipment and maintenance tend to rise, following general price developments and partly also increased demands on quality and variety of rooms and equipment.

If we keep in mind the fact that teachers' salaries, although decreasing in proportion to total educational expenditure, continue to rise in absolute terms, we understand to a large extent the rising proportion of total educational expenditure in the Gross National Product.

2. Equation (1) may serve further to give more detailed insight into the structural differences in cost factors, which make for the gap between "rich" and "poor" countries in spending for education.

This can be shown by recalculating equation (1) numerically with the help of fictitious but typical figures.

Let us first assume that in a developing country the school-age population (including the 20-24 year olds) is 30% of total population, that the average enrolment ratio of this group is 25%, that the staff-student ratio is 1:30, the ratio of total educational expenditure to teachers' salaries 100:70, and that the ratio of average annual teacher's salary to GNP per capita is 5:1. If we insert these figures which reflect the actual situation of many developing countries in the early fifties into equation (1), we obtain:

$$\frac{E}{GNP} = \frac{30}{100} \cdot \frac{25}{100} \cdot \frac{1}{30} \cdot \frac{100}{70} \cdot \frac{5}{1} = 1.78\%$$

If we further assume that, according to the trends in cost factors which we have discussed above, the ratio $\frac{P_s}{P}$ has risen to 33% during the next decade, that the average enrolment ratio has risen to 30%, that the staff-student ratio has been lowered to 1:25, while the ratio $\frac{E}{E_t}$ has risen to 100:66 and the ratio $\frac{e_t}{GNP/cap.}$ to 6:1, we arrive at:

$$\frac{E}{GNP} = \frac{33}{100} \cdot \frac{30}{100} \cdot \frac{1}{25} \cdot \frac{100}{66} \cdot \frac{6}{1} = 3.6\%$$

Again, this percentage reflects rather accurately what some of the more development-minded "poor" countries have achieved with regard to the financial extension of their educational systems.

In industrialized countries, the initial conditions and the relative weight of various cost factors have, of course, been different. If we assume that in the early fifties the school-age population was 30% of the total population, that the global enrolment ratio was 60% (including enrolment at the third level), the staff-student ratio 1:25, the ratio of total educational expenditure to teachers' salaries 100:60 and that the average annual teacher's salary, measured in "aliquots" (2), was 2.5:1, we obtain:

$$\frac{E}{GNP} = \frac{30}{100} \cdot \frac{60}{100} \cdot \frac{1}{25} \cdot \frac{100}{60} \cdot \frac{2.5}{1} = 3.0\%$$

We can assume that subsequently the ratio of school-age population to total population has, on an average, remained constant, that the global enrolment ratio has increased to 65%, that the staff-student ratio has fallen to 1:20, while the ratio $\frac{E}{E_t}$ has risen to 100:55 and the teacher's salary "aliquot" to 3:1. Inserting these (fictitious) figures into equation (1), we obtain:

$$\frac{E}{GNP} = \frac{30}{100} \cdot \frac{65}{100} \cdot \frac{1}{20} \cdot \frac{100}{55} \cdot \frac{3}{1} = 5.32\%$$

Obviously, these rough examples might be improved and extended in two directions: Countries might calculate equation (1) using actual instead of fictitious statistical figures; in addition, they might calculate it for each year and compare the results with those of other countries in a similar developmental situation. The usefulness of international comparisons on the basis of such longitudinal analysis is evident. They would avoid some of the difficulties we mentioned in Part C I and could be quite revealing for purposes of forecasting educational cost factors.

But, as we have noted, equations (1) and (1a) respectively present simple identities. They cannot, therefore, explain why educational expenditure tended to rise almost everywhere; their sole purpose can be to illustrate the complex interaction of various "real" and monetary cost factors resulting in a global increase of total educational expenditure.

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(1) Source: UNESCO: long-term projections for education in India; Report of the Unesco Regional Advisory Team in Asia, 1965.

(2) Cf. above; p. 53.

Inevitably, the sequence of changes in cost factors such as average teachers' salaries in relation to GNP per head, share of teachers' salaries in total educational expenditure, and teacher-student ratio, if looked at the other way round, leads back to the number of students as a crucial determinant of the expansion in educational expenditure.

In fact, the student boom has thus far been taken rather as a given phenomenon that we have to take into account. This view has been supported by the conventional "social demand" concepts in educational decision making, which tended to regard student numbers streaming into the educational system as a "natural" and widely exogenous force.

What is needed, then, is explanation rather than mere demonstration of this phenomenon. Bringing our focus on the determinants of the student boom will improve our knowledge of the factors that have made for the extraordinary rise in educational expenditure in recent years.

II. EDUCATIONAL EXPENDITURE AND DEMAND DETERMINANTS: REGRESSION MODEL AND STATISTICAL ANALYSIS

We shall try to give this explanation by using a simplified model in which the determinants of student numbers act as "predictors" of a regression equation. Besides this, the "criterion variable" and the predictors are put to "correlational cross-section analysis" - on the basis of our sample of countries.

The major simplifying assumption we want to make, from now on, is that we are not explicitly taking into consideration those factors which are directly responsible for outlay, such as the number of teachers per student, average teacher's salary in relation to GNP per head, and proportion of teachers' salaries in total educational expenditure, which we have discussed above. These factors, the global expression of which is the unit outlay, are more within reach of educational decision makers; we know more about what affects them and how they are determined.

Therefore, we do not account for these factors, assuming them to be constant and proceed by writing equation (1) in simplified form as follows:

$$E = S \cdot \bar{e} \quad (\bar{e} = \text{const.}) \qquad (2)$$

$$\text{or } E = P_S \cdot r \cdot \bar{e} \qquad (2a)$$

Besides the demographic factor P_S (size of school-age population), the global enrolment ratio r is by definition the main determinant of absolute student numbers. Enrolment ratios can be interpreted as a global expression of laws enforcing a minimum education (the society's demand as seen by the legislator) and of individual demand for education effective in the respective age groups.

In previous studies this demand has been analysed roughly under three aspects which may be called the "consumption aspect", the "investment aspect", and the "social background aspect".

With regard to the consumption aspect (1) the argument runs as follows: the demand for education reflects one among other competing possibilities of spending or forgoing individual income. Even in those countries where direct costs, as tuition fees, outlay for books etc. are small or non-existent, the indirect costs of education are high. T. W. Schultz estimated that in 1956 this indirect cost component of education amounted to about 75% of direct private and public expenditure on education in the United States (2).

Total disposable income therefore influences the demand for education and appears, as far as the consumption aspect of this demand is concerned, as the main determinant.

But education cannot be regarded simply as consumption. Perhaps even more, it must be seen as an investment in personal talents and capacities and as an improvement of individual spiritual, mental and behaviour potentials that would otherwise remain latent. Investigations of the rate of return from investments in human capital have demonstrated that education "pays" in an economic sense (3). The individual decisions on whether or not education will be a good investment have to take into account present occupational structures as well as future employment and earning prospects. These variables, then, appear in connexion with the investment aspect of education as the most important determinants of individual demand for education.

Previous studies (4) in the sociology of education have pointed out that lack of communication and information, tradition-bound modes of behaviour and limited aspiration levels very often prevent individuals from calculating their occupational prospects deliberately. Among these factors, father's occupation figures most prominently. Combined with the features of socially immobile societies or social strata already mentioned, it forms the social background of individual demand for education.

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(1) Cf. SVENNILSON, Ingvar; EDDING, Friedrich; ELVIN, Lionel: Targets for education in Europe in 1970; op. cit., p.22.

(2) SCHULTZ, Theodore W.: Capital formation by education; in: Journal of political economy; Vol. 68, 1960, pp. 579 ff. See also MACHLUP, Fritz: The production and distribution of knowledge in the United States; Princeton, N.J., 1962.

(3) BECKER, Gary S.: Human capital. Op. cit.

(4) BRAZER, Harvey E. and DAVID, Martin: Social and economic determinants of the demand for education. In: Economics of higher education. MUSHKIN, Selma J. (ed.), U.S. Government Printing Office, Washington 1963. DAHRENDORF, Ralf: Arbeiterkinder an deutschen Universitäten. Tübingen 1965. FLOUD, J., HALSEY, A.H., MARTIN, F.M.: Social class and educational opportunity. Heinemann, London 1956. KAHL, J.A.: Educational and occupational aspirations of 'Common Man'. In: Education, economy and society. HALSEY, A.H., FLOUD, J., ANDERSON, C. Arnold (eds.), The Free Press of Glencoe, New York 1963, and several other contributions in this volume.

Both the investment and the social background aspect point to the important rôle which father's occupation, i.e. the present occupational structure, plays in determining the demand for education. For want of a statistically available operationalization of this variable we shall tentatively use the proportion of highly qualified manpower in the economically active population ($\frac{L_i}{L}$) as an indicator reflecting individual demand for education.

Summing up the consumption, investment, and social background aspects of the demand for education we now proceed by transforming the identity equation (2) into a functional relation:

$$E = f(P_S, Y, \frac{L_i}{L}). \quad (3)$$

This equation will now be put to regression analysis. The aim of this test is to find out whether the demographic factor "size of school-age population" (P_S) together with the demand factors "income"(Y) and "occupational structure" ($\frac{L_i}{L}$) can explain in a statistical sense inter-country differences of total public resources spent on education. We shall keep in mind the fact that all direct cost factors determining unit outlay (e) are not accounted for in this analysis.

OPERATIONALIZATION OF VARIABLES

(a) The following regression and correlational analysis uses total public expenditure on public and private education as the dependent variable. We choose this definition since we regard the increase of educational expenditure as a budgetary problem. If instead we had been examining the impact of educational expenditure on overall economic growth, we should have included private expenditure on education as well.

Only recurring expenditure for the respective "levels of education" will be distinguished in our analysis of expenditure trends. Many countries do not publish corresponding data for capital outlays. Expenditure for pre-primary, special and adult education as well as those for "other types of education" will be neglected as well. For a detailed definition of expenditure items Unesco's questionnaires on Statistics of Educational Finance and Expenditure (1) should be consulted, from which the data used in this study have been derived.

(b) The first predictor variable is the size of the age group corresponding to the respective levels of education. Since both the entering age for, as well as the duration of education programmes at the first, second, and third level vary from country to country, the respective age groups should be adjusted accordingly. It was, however, impossible to do this. In the following analysis the "unadjusted age groups" 5-14, 15-19, and 20-24, corresponding to the 1st, 2nd and 3rd level of education respectively will be used.

(c) The second predictor variable is that portion of private disposable income spent by the parents of students on education at the 1st, 2nd and 3rd level respectively. Unfortunately, neither data on total "private disposable income" nor on that percentage are available for all the countries in our analysis (2). We shall therefore substitute National Income at factor cost as a variable. These data have been standardized according to the UN "Standardized System of National Accounts". Since international comparisons have to be made on the basis of a common currency, National Income figures as well as expenditure on education are expressed in U.S. dollars, computed on the basis of the official exchange rates. Exceptions to that rule had in some cases to be made because of totally unrealistic official exchange rates.

The use of National Income at factor cost as a substitute variable can admittedly be criticized for lack of validity. The choice of that particular operationalization does not quite capture what we mean. For example, the impact of different distributions of personal income on the demand for education will not be reflected. On the other hand, the high correlation between National Income and technological development, overall tax revenues and the resulting spending capacities of governments, imply that the influence of these variables will be reflected. The theoretical relations which we set out to test will be somewhat blurred by these statistical inadequacies.

(d) The third predictor variable is the number of highly qualified manpower as a percentage of the economically active population. We would like to work with statistics showing the economically active population according to educational qualifications. Since this information is available only for a small number of countries we shall use classifications of the economically active population according to occupation. This information is available in a standardized form on the basis of the I.S.C.O. scheme (3). We shall use, alternatively, one of the following two ratios: $\frac{L_1}{L}$ is the ratio of persons in occupational categories 0 and 1 (professional, technical and related workers; administrative, executive and managerial workers) to the total of the economically active population. $\frac{L_2}{L}$ is more general and includes the persons in occupational categories 2 and 3 (clerical workers; sales workers).

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(1) See Annex II.

(2) The U.N. Yearbook of National Accounts Statistics 1965 gives "private disposable income" for only a small number of countries.

(3) INTERNATIONAL LABOUR OFFICE: International Standard Classification of Occupations. Geneva 1962.

The variables enumerated are summarized in the following list:

	Symbol	Name of Variable	Unit
Dependent Variables	E	Total public expenditure on public and private education	U.S. $
	E_1	Current public expenditure on public and private education at the 1st level of education	U.S. $
	E_2	Current public expenditure on public and private education at the 2nd level of education	U.S. $
	E_{1+2}	Current public expenditure on public and private education at the 1st and 2nd level of education	U.S. $
	E_3	Current public expenditure on public and private education at the 3rd level of education	U.S. $
Independent Variables	P_s	Size of age group 5-24	Persons
	P_{s_1}	Size of age group 5-14	Persons
	P_{s_2}	Size of age group 15-19	Persons
	$P_{s_{1+2}}$	Size of age group 5-19	Persons
	P_{s_3}	Size of age group 20-24	Persons
	Y	National Income at factor cost	U.S. $
	$\frac{L_1}{L}$	Percentage of total economically active population in I.S.C.O. groups 0-1	%
	$\frac{L_2}{L}$	Percentage of total economically active population in I.S.C.O. groups 0-3	%

COVERAGE AND METHOD OF ANALYSIS

(a) The sample used for our empirical analysis covers 35 countries. We mentioned in the Introduction which countries have been included and into which regional categories and stages of development they fall. Further, we emphasized that we are dealing with a strictly non-random sample of all countries. Therefore, the computation of levels of significance and confidence intervals is not possible.

Since there are gaps in the data the number of countries included in the various computations varies, so that in general $N<35$.

Our cross-section analysis refers to the situation as of 1961; only for a very small number of countries were more recent census statistics on demographic and occupational characteristics available.

(b) To estimate complex relations such as those described in equation (3) we shall use least-squares multiple regression analysis and coefficients of correlation (1). In general, the estimation of the parameters of the respective regression equation specifies the type of the underlying relationship whereas the coefficient of correlation - simple or multiple - is a measure for the "fit" of the actually observed values around the theoretical values of the function specified by the regression equation.

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(1) For a mathematical discussion of the underlying techniques and assumptions see, for example BLALOCK, Hubert M. Jr.: Social statistics, McGraw-Hill Book Company, Inc., New York, Toronto, London 1960.

Since the predictor variables P_{s_i}, Y and $\frac{L_j}{L}$ ($j = 1.2$) are measured in different units, their respective impact on expenditure on education cannot be directly compared on the basis of the respective regression coefficients. We therefore compute so-called "beta weights" which are standardized partial regression coefficients. We further compute second-order partial correlation coefficients to analyse the relationship between two variables after eliminating the impact of the other two variables. For greater facility of computation we shall work with an exponential function of the following type:

$$E_i = aP_{s_i}^{b} \cdot Y^{c} \cdot \frac{L_j^{d}}{L}$$

Technical considerations (1) lead us to estimate that function after a double-log transformation:

$$\ln E_i = \ln a + b \ln P_{s_i} + c \ln Y + d \ln \frac{L_j}{L} .$$

This procedure has the advantage of providing regression coefficients which can directly be interpreted as the respective elasticities (2).

RESULTS

(a) We start with a simple correlation analysis of the relation between expenditure on education and the respective independent variables P_{s_i}, Y and $\frac{L_j}{L}$.

(a_1) $r\ (\ln E / \ln P_S) = +\ 0.759$ $(n = 34)$
$r\ (\ln E_1/\ln P_{S_1}) = +\ 0.670$ $(n = 28)$
$r\ (\ln E_2/\ln P_{S_2}) = +\ 0.772$ $(n = 28)$
$r\ (\ln E_{1+2}/\ln P_{S_{1+2}}) = +\ 0.754$ $(n = 34)$
$r\ (\ln E_3/\ln P_{S_3}) = +\ 0.742$ $(n = 32)$

The positive impact of the overall and the level-specific demographic factor "size of the age group" on overall and level-specific expenditures on education, respectively, is clearly evident. Certainly, the coefficients of correlation would have been still higher had we excluded the extremely high demographic data for India (age group 5-24, 1961: 187 millions). This together with the small financial weight of the primary level of education in India probably accounts for the relatively weak relation between $\ln E_1$ and $\ln P_{S_1}$.

(a_2) $r\ (\ln E / \ln Y) = +\ 0.983$ $(n = 34)$
$r\ (\ln E_1/ \ln Y) = +\ 0.967$ $(n = 28)$
$r\ (\ln E_2/ \ln Y) = +\ 0.955$ $(n = 28)$
$r\ (\ln E_{1+2}/\ln Y) = +\ 0.973$ $(n = 34)$
$r\ (\ln E_3/ \ln Y) = +\ 0.975$ $(n = 32)$

All five formulations show an extremely high correlation between expenditure on education and National Income. This result is consistent with the findings of some earlier studies although the statistical concepts used vary slightly: Daniel Blot and Michel Debeauvais computed a correlation coefficient of $r = 0.966$ for total public educational expenditure and Gross Domestic Product in 1961 $(n = 104)$. A somewhat smaller sample $(n = 95)$ for 1960 showed the same correlation coefficient of $r = +\ 0.966$. When per capita values were used the coefficients were $r = +\ 0.941$ and $r = +\ 0.933$, respectively (3).

To check on these results we also computed the simple correlation coefficient for the linear, non-log relation between E_i and Y. Some of these coefficients are still higher (4):

$r\ (E / Y) = +\ 0.997$ $(n = 34)$
$r\ (E_1/ Y) = +\ 0.934$ $(n = 28)$
$r\ (E_2/ Y) = +\ 0.895$ $(n = 28)$
$r\ (E_{1+2}/Y) = +\ 0.996$ $(n = 34)$
$r\ (E_3/ Y) = +\ 0.987$ $(n = 32)$

These values are in line with the results of earlier studies we mentioned in Chapter C II a using cross-section data for 1954, 1950 and 1938 for a sample of 18 and 12 countries, respectively (5): The coefficients of correlation for per capita public expenditure on education and per capita National Income were $r = +\ 0.992$, $r = +\ 0.984$ and $r = +\ 0.949$, respectively. The variables were analysed in a non-log form.

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(1) JOHNSTON, J.: Econometric methods, New York, San Francisco, London, Toronto, 1963, pp. 44-52.

(2) Prove:
For a given equation $Y = aX^b$ the elasticity of Y with respect to X is

$$= \frac{dY}{dX} \cdot \frac{X}{Y}$$

This may be written as $= abX^{b-1} \cdot \frac{X}{aX^b} = b$, q.e.d.

(3) All underlying regressions were presented in double-log form. See BLOT, Daniel, DEBEAUVAIS, Michel: Educational expenditure in developing areas: some statistical aspects; in: Financing of education for economic growth, OECD, Paris 1966, pp. 73-88.

(4) The slightly lower correlations for E_1/Y and E_2/Y can be explained by the fact that neither the United States nor the USSR are included. As is familiar with statisticians, "extreme cases" in scatter diagrams make for higher correlations (cf. H.M. Blalock, op.cit., p. 290).

(5) EDDING, Friedrich: Internationale Tendenzen in der Entwicklung der Ausgaben für Schulen und Hochschulen, op.cit., p. 24. See also Table 22.

It certainly would be naïve to interpret these surprisingly high correlations as a direct validation, let alone "proof" of our theoretical consideration. The hypothesis formulated above in equation (3) and stating that private disposable income as a substitute variable for the consumption component of the private demand for education is an important explanatory variable for enrolment ratios r_i (and thereby of public educational expenditure) is only imperfectly reflected in the high correlation between National Income and public educational expenditure. This line of causation among others is certainly also empirically evidenced in the high correlation observed. The lack of validity of our operationalization, however, probably leads to the reflection of a number of other, not explicitly investigated interdependencies to be reflected in the high correlation of educational expenditure and National Income (1). These unidentified factors are probably mainly related to the supply side of the financing of the educational process: A higher National Income does not only imply a higher private demand for education but also reflects a higher financial capacity of the government which may lead to an increase of public educational expenditure.

Finally, we have to be aware of the possibility that the correlation between educational expenditure and National Income need not reflect a direct causal interdependency but rather a mere parallel development of those aggregates. This phenomenon (2), usually called spurious correlation, is particularly important for intertemporal analyses where investigated variables might not be directly related to one another but be functions of the variable "time". Although the variable "time" is eliminated in cross-section analyses, such a third factor may very well be the "real" determinant of an observed correlation: "... there may be other categories besides space and time that present in coherence a number of phenomena which seem to have no common cause, no connexion except through a word - 'civilization' or 'evolution' (3)."

These warning remarks seem to be necessary to guard against an over-optimistic evaluation of the meaning of the statistical evidence supporting our regression model.

(a3) $r\,(\ln E / \ln \frac{L_1}{L}) = +\,0.654 \quad (n = 29)$

$r\,(\ln E_1 / \ln \frac{L_1}{L}) = +\,0.670 \quad (n = 23)$

$r\,(\ln E_2 / \ln \frac{L_1}{L}) = +\,0.577 \quad (n = 23)$

$r\,(\ln E_{1+2} / \ln \frac{L_1}{L}) = +\,0.679 \quad (n = 29)$

$r\,(\ln E_3 / \ln \frac{L_1}{L}) = +\,0.696 \quad (n = 27)$

$r\,(\ln E / \ln \frac{L_2}{L}) = +\,0.590 \quad (n = 31)$

$r\,(\ln E_1 / \ln \frac{L_2}{L}) = +\,0.606 \quad (n = 25)$

$r\,(\ln E_2 / \ln \frac{L_2}{L}) = +\,0.574 \quad (n = 25)$

$r\,(\ln E_{1+2} / \ln \frac{L_2}{L}) = +\,0.609 \quad (n = 31)$

$r\,(\ln E_3 / \ln \frac{L_2}{L}) = +\,0.549 \quad (n = 29)$

The occupational structure expressed by $\frac{L_j}{L}$ ($j = 1.2$) may be a factor behind each of the five educational expenditure variables. The number of highly qualified persons in the ISCO groups 0 and 1 as a percentage of the total economically active population shows a particularly high correlation with expenditures for the third level of education. Characteristically, the variable $\frac{L_2}{L}$, including the ISCO groups 2 and 3, shows its lowest correlation with the third level of education. We have no ready explanation for the relatively weak correlation of both $\frac{L_1}{L}$ and $\frac{L_2}{L}$ with expenditures for the second level of education. We believe that on the basis of more complete and better statistical data it should be possible - even for international comparisons - to develop indicators for social background and educational investment aspects of the private demand for education which would be more appropriate than those used here.

In particular, cross-classifications of the economically active population by occupational category and educational attainment as well as data on future employment bottlenecks and prospective wage structures should provide more adequate indicators for the theoretical concepts we wish to test.

To point out the lines along which statistical data should be improved and refined is, in our opinion, one of the main functions international comparisons using quantitative techniques can have at the present stage of international statistical documentation.

(b) We now proceed to test equation (3) by estimating the parameters of the double log transformation of the exponential function as defined earlier:

$$\ln E_i = \ln a + b \ln P_{S_i} + c \ln Y + d \ln \frac{L_j}{L}$$

The parameters are estimated using the least-squares multiple regression technique. The value of the coefficient of multiple correlation, R, shows the power of explanation of our model.

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(1) The fundamental difficulty is, as Hubert M. BLALOCK puts it, that "... scientists think in the theoretical language and make tests in the operational language." (op.cit., p.11).

(2) KOLLER, Siegfried: Typisierung korrelativer Zusammenhänge; in: Metrika, Vol. 6, 1963, p.71-72.

(3) EDGEWORTH, Francis Y.: Comment to George Udny Yule: Why do we sometimes get nonsense - correlations between time-series? in: Journal of the Royal Statistical Society, 89/January 1926/1, p.65.

(1)

$$\ln E = -5.079 - 0.194 \ln P_s + 1.187 \ln Y + 0.202 \ln \frac{L_2}{L}$$

Standard regression coefficient
(-0.171) (+1.068) (+0.047)
Partial correlation coefficient
(-0.330) (+0.926) (+0.194)
Coefficient of multiple correlation
$R = +0.9889$ $(n = 31)$

(2)

$$\ln E_1 = -5.029 - 0.229 \ln Ps_1 + 1.114 \ln Y + 0.273 \ln \frac{L_2}{L}$$

Standard regression coefficient
(-0.171) (+1.067) (+0.074)
Partial correlation coefficient
(-0.359) (+0.900) (+0.230)
Coefficient of multiple correlation
$R = +0.9801$ $(n = 25)$

(3)

$$\ln E_2 = -8.493 - 0.067 \ln Ps_2 + 1.180 \ln Y + 0.435 \ln \frac{L_2}{L}$$

Standard regression coefficient
(-0.042) (+0.948) (+0.099)
Partial correlation coefficient
(-0.0648) (+0.784) (+0.239)
Coefficient of multiple correlation
$R = +0.9676$ $(n = 25)$

(4)

$$\ln E_{1+2} = -5.321 - 0.0646 \ln Ps_{1+2} + 1.043 \ln Y + 0.497 \ln \frac{L_2}{L}$$

Standard regression coefficient
(-0.043) (+0.948) (+0.118)
Partial correlation coefficient
(-0.0913) (+0.864) (+0.356)
Coefficient of multiple correlation
$R = +0.9812$ $(n = 31)$

(5)

$$\ln E_3 = -6.112 + 0.1508 \ln Ps_3 + 0.893 \ln Y + 0.680 \ln \frac{L_1}{L}$$

Standard regression coefficient
(+0.099) (+0.759) (+0.208)
Partial correlation coefficient
(+0.156) (+0.689) (+0.408)
Coefficient of multiple correlation
$R = +0.9778$ $(n = 27)$

The square of the coefficient of multiple correlation is called the coefficient of multiple determination, B, and gives the percentages of the total variance of the independent variable E_i attributable to our explanatory variables. Thus our model "explains" 98% of the inter-country differences in total public expenditure on education, and 96%, 94%, and 95.5% of the current public expenditure for the 1st, 2nd, and 3rd level, respectively.

Compared to the explanatory power of the simple correlation analyses between E_i and Y this represents, however, only a slight improvement - the dominating rôle of the Y-variable continues to be the most remarkable result of our computations.

The computed income elasticities of educational expenditures are only slightly higher than + 1; for the current expenditures on 3rd level education the elasticity is even slightly smaller than + 1. Except for these variations there are no major differences in the results of our five equations.

If it were not for the additional, positive expenditure effect of the variable $\frac{L_j}{L}$, these low elasticities would lend support to the idea of an "income constraint" (1) put forward by Sacks. In fact, the elasticity of educational expenditures with respect to increasing percentages of highly qualified manpower is positive in all five equations. The total increase in educational expenditure will, therefore, be larger than would be suggested by the income elasticity alone. The regression coefficients of $\frac{L_j}{L}$ are, however, much smaller than could have been expected. Multicollinearity between the independent variables could possibly have worked to introduce a consistent negative bias for these coefficients.

This suspicion is strengthened by looking at the negative relation between the absolute amount of educational expenditure for the different levels and the size of the corresponding age groups. The variance of the individual regression coefficients may increase with the influence of multicollinearity and may eventually result in negative estimates for the regression coefficient (2).

Moreover, the relationship between educational expenditure and Y is so strong in our case that random variations bearing upon the other variable may become very strong and blur systematic relationships. This bias might partly account for the fact that the partial correlation coefficients of Ps_i and $\frac{L_j}{L}$ are so much lower than the respective simple correlation coefficient.

Within the framework of this study it is impossible to eliminate the deficiencies of regression analyses as has been done by the use of more sophisticated techniques (3). We have tried, instead, to test the expenditure effects of Ps_i and $\frac{L_j}{L}$ in a reduced explanatory model, excluding Y, in order to obtain unbiased estimates for the regression coefficients of P_s and $\frac{L_j}{L}$.

(1)

$$\ln E = -3.114 + 1.054 \ln Ps + 2.162 \ln \frac{L_2}{L}$$

Standard regression coefficients
(+0.710) (+0.510)
Partial correlation coefficients
(+0.874) (+0.790)

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(1) Cf. SACKS, Seymour, op.cit., passim.

(2) Cf. JOHNSTON, J., op. cit., p. 204.

(3) See, for example, FRISCH, Ragnar: Statistical confluence analysis by means of complete regression systems, University Economics Institute, Oslo, 1934; TINTNER, Gerhard: Handbuch der Ökonometrie. Springer, Berlin, Göttingen, Heidelberg 1960, pp. 261 ff.

Coefficient of multiple correlation

$$R = +0.919 \quad (n=31)$$

(2)

$$\ln E_1 = -1.933 + 0.872 \ln P_{S1} + 2.115 \ln \frac{L_2}{L}$$

Standard regression coefficients

(+0.653) (+0.574)

Partial correlation coefficients

(+0.820) (+0.783)

Coefficient of multiple correlation

$$R = +0.890 \quad (n=25)$$

(3)

$$\ln E_2 = -3.737 + 1.131 \ln P_{S_2} + 2.173 \ln \frac{L_2}{L}$$

Standard regression coefficients

(+0.715) (+0.494)

Partial correlation coefficients

(+0.868) (+0.770)

Coefficient of multiple correlation

$$R = +0.914 \quad (n=25)$$

(4)

$$\ln E_{1+2} = -3.416 + 1.037 \ln P_{S1+2} + 2.233 \ln \frac{L_2}{L}$$

Standard regression coefficients

(+0.699) (+0.532)

Partial correlation coefficients

(+0.876) (+0.810)

Coefficient of multiple correlation

$$R = +0.924 \quad (n=31)$$

(5)

$$\ln E_3 = -0.587 + 1.006 \ln P_{S_3} + 1.970 \ln \frac{L_1}{L}$$

Standard regression coefficients

(+0.664) (+0.603)

Partial correlation coefficients

(+0.915) (+0.900)

Coefficient of multiple correlation

$$R = +0.957 \quad (n=27)$$

The combined explanatory power of the variables P_{S_1} and $\frac{L_j}{L}$ is high, even after the exclusion of Y as an explanatory variable for expenditure increases. The bias in the regression coefficients due to multicollinearity seems to be eliminated: the absolute size of school-age population (P_{S_i}) does not correlate with the percentage of highly qualified manpower. It appears that the unbiased elasticity value of E_i with respect to $\frac{L_j}{L}$ in our five equations averages about + 2. If we assume the historical, yearly increase of $\frac{L_j}{L}$ to be around 3 per cent this would imply a yearly increase of educational expenditure of about 6%. This in itself is an indication of the monetary expansion of the educational sector associated with a changing occupational structure.

It is now clear that the size of the age group is also positively related to increases of educational expenditure for the different levels of education. The corresponding elasticities vary slightly around + 1, a result which implies direct proportionality between demographic development and increases in educational expenditure for the different levels, holding the other variables constant.

It is interesting that the correlation of E_i with P_{S_i} and $\frac{L_j}{L}$, respectively, has improved now as compared to the respective simple correlation coefficients. The partial correlation coefficients of P_{S_i} and E_i (after elimination of the influence of $\frac{L_j}{L}$) and $\frac{L_j}{L}$ and E_i (after elimination of the influence of P_{S_i}) amount to + 0.85 and 0.80, respectively. Moreover, these coefficients increase with successively higher levels of the educational system.

SOME LIMITING REMARKS

The simple and multiple regressions computed show that the variance in public spending for education within the countries of our sample can, in fact, be ascribed largely to the respective size of the school-age population, to total National Income, and to the share of highly qualified manpower in the labour force. This is true even though international differences in unit outlays per student have not been accounted for in this statistical analysis.

But with regard to this test, as with all international comparisons using regression and correlation techniques, two major caveats must again be pointed out.

The first refers to the validity of the data, as compared with the theoretical concepts we wish to test. At the present stage of international data collection comparative education research is often forced to make use of data which reflect only inadequately the relations one properly intends to analyse. This is certainly true also of this study.

The second caveat concerns the danger of misleading interpretations. Correlational analysis is by no means an instrument to ensure that past causation patterns will continue to determine future developments. This illegitimate way of looking at the results has, in fact, discredited the "correlations approach" in educational research to a large extent. To overcome this one-sided type of interpretation it seems necessary to give more attention to the crucial rôle of deliberate planning and decision making for future educational development.

Chapter E

CONCLUSIONS FOR EDUCATIONAL PLANNING AND POLICY

Comparative education research, so far, has shown little interest for problems of educational expenditure and finance. Problems of structure, content and method attract the major attention of scholars in this field. For many of those who are involved in educational development, expenditure figures seem to have no meaning at all or at best a peripheral "technical" importance.

In writing this study, we have been confirmed in our belief that, on the contrary, some important aspects of educational development can be understood only with the help of expenditure comparisons. We are also convinced that calculations of outlay per unit are indispensable in the planning of education and that comparative international analysis of absolute and relative expenditure developments can provide a valuable help for forecasting and for controlling unit outlay.

Those who participate in local, national or international planning and decision making need one comprehensive means of expression for the total of educational efforts. They want to compare this with totals of other efforts in their planning object. We should like to recommend expressions in terms of cost for this purpose. But we cannot do that because then questions of the relationship between cost and benefit arise. This is a largely unexplored field. Cost comparisons are desirable, but only expenditure comparisons are feasible at the present stage of our knowledge and in particular in comparative education research. Even the selected expenditure figures we have been using in this study are far from being good enough for all possible purposes in educational planning. Their comparability suffers, as we have seen, from many deficiencies. But we think that it would be worth while to make a major effort in order to improve the comparability of these figures.

Statistical institutions in this field need more finance and more support from the highest authorities in order to be able to provide reliable and properly standardized data. The problem of conversion rates should be solved by developing a generally applicable method of pricing educational expenditure and of calculating regularly special exchange rates. We recommend beginning this in a number of countries where highly developed statistical services are already available, and gradually enabling more countries to participate in this project and to benefit from the resulting improved comparability.

We do not believe that perfection in this respect is within reach and we do not think that it is necessary. What we hope for is a degree of comparability which would give us reliable knowledge of fiscal patterns relevant to educational development. We would then know about educational inputs and their relation to other inputs as well as to national aggregates. We shall probably find regularities in these relations as well as deviations. If we find deviations we cannot conclude directly that this is good or bad for one purpose or another. We shall rather regard this as information that makes it worth while to investigate the causes of irregularities. This is true of the proportions of aggregates and of unit outlays. If some country reports, for instance, extremely low outlay per student in general or in some particular type of education, research into causes and, it is to be hoped into effects, also might prove useful. If it spends extraordinarily high or low percentages of the National Income on formal education, again research into cause and effect could result in interesting information.

It seems probable to us that comparisons and research of this kind gain in value the more similar the countries (or regions) studied are in their general socio-economic structure and level of development. Even under these conditions proportions of total educational expenditure and figures of unit outlay for one country should in our view not be used as targets for educational plans in other countries. This would be still more true if the countries compared are very different in structure and development level. Figures and proportions of educational expenditure must be seen as components of complex individual patterns. They can give signals to the outside observer, inviting him to have a close look into the individual conditions.

But these figures are not devices which can be exported and applied outside their original setting.

To set a global ceiling of a certain percentage of National Income or total revenue to be spent on public education would, in our view, diminish the flexibility of educational planning. Outlay should be the result of decisions on goals, priorities, structures, curricula, and methods. These decisions have to be made in individual situations and in view of many other needs of overall development. They should, therefore, not be bound to a rigid target of expenditure, borrowed from outside situations. However, national planning of education should use international comparisons of aggregate proportions and of unit outlays for orientation and control after the national programme has been worked out tentatively in real terms and has then been calculated in monetary terms. If the resulting outlay requirements differ greatly from the patterns emerging out of international comparisons, an investigation into the causes of these differences might lead to important discoveries and suggest a revision of the tentative plan.

Comparisons as we suggest them here have another function which is often overlooked. Expenditure studies, more than anything else, make it necessary to face the limits of educational expansion. We assume that the need for education is, for any foreseeable time and for all countries, in principle, unlimited. But in reality, the constraints on financing educational outlay are everywhere powerful and pressing. The contrast between goals and possibilities of realizing them is, as our analysis has shown, particularly sharp in the poor countries.

Our interpretation of expenditure developments has also led us to question the validity of some concepts which limit educational development unnecessarily. We have discussed the dangerous myth of the one predetermined development path.

Another danger lies in the narrowness of planning only inside the "educational province". Studies of expenditure on education and its limits force us to look at other sectors of expenditure and at overall social developments. Many of those who are responsible for the planning of education accept the world outside the educational province as given and entirely beyond their competence. They adopt the attitude that they have no influence on the main causal factors of educational expenditure. In their planning, what should be the most important instrumental variables, are regarded as given data: The size of the age group, the demand for entrance into educational institutions, the prices of goods and services needed for formal education, the environmental influences affecting the results of formal education, the requirements of educated manpower, the resources available for public uses. In the educational planning of most countries these factors have, so far been accepted as exogenous, that is, as forces outside the competence of education authorities.

The factors we have investigated in Chapter D of this study explain most of the past growth and of inter-country differences of educational expenditure. They also demonstrate the constraints on future educational expansion and improvement, assuming that past trends of causalities and past concepts of educational planning continue. However, the fact that expenditure levels were in the past determined by certain combinations of factors does not mean that this was an optimum combination and that forecasts have to assume continuance of past causalities. Surveying the interplay of causal factors in various national developments of educational expenditure can indicate more clearly the possibilities for planning future expenditure.

But it would be wrong to look at the future development of education as if it had mainly to follow past causation patterns. We want rather to advocate looking at future developments as deliberately planned change and regarding explanatory causal factors as instrumental factors. In doing so we suggest revising former notions about the character of these factors. When are they exogenous and when are they instrumental variables? It appears to us that the answer depends mainly on which scope and competence the planning agency or regulator system has. Local education authorities can influence only very few of the causal factors behind educational outlay developments. But the situation is not much different on the national level as long as educational planning is performed in the usually narrow sphere of schools and universities. Wide possibilities of a policy for modern education can be expected only if public education is planned as an integral component of overall social development. Only then will it be possible to have educational expansion and improvement without serious budgetary conflicts and grave general political repercussions. General income and price levels correlate highly with educational expenditure. They influence the demand for places in educational institutions and they are reflected in the prices of goods and services used in education. They are clearly very important factors in the development of educational expenditure. But they are hardly anywhere instrumental variables in local educational planning, and they are rarely treated as instrumental on the national level of educational planning. The possibilities of raising local and regional income levels by planned intervention are, as a rule, not seen as falling within the competence of educational planners. The more the plans to develop education become an integral part of overall local and national planning, the more can income and price developments (including teachers' salaries) be influenced in view of objectives in education.

Inasmuch as planning on a supra-national level exists (for instance, in the activities of the World Bank), the possibilities of influencing the scope of national educational planning are numerous. There are many ways of manipulating the flows and the prices of goods, services and money in the world markets. The possible influences on national economic growth of interventions or non-interventions in these markets and of direct aid have been often discussed. The consequences for wider or tighter public budgets and thereby for public education are obvious. In this context, it seems essential to make available reliable comparative surveys of educational expenditure and its international differentials for discussions of the gap between rich and poor countries.

Population and occupational developments also have been, so far, mostly regarded as exogenous variables for the planning of education. Some inter-action is seen in the long run, but for periods of five to ten years educational planning is credited with little influence on population and manpower. In fact, however, this depends again on how much the planning of education is a part of overall planning in a regulator system that includes the competence to influence population and manpower developments. Total population growth and, in particular the share of school-age population in total population can be stimulated or restricted even in the short run. Internal and external population movements are an object of policy in most countries and could be influenced strongly in view of educational objectives, if this were the will of the regulator system. This, then, can influence the number of students, the location, size, and unit cost of schools. It can also influence the size of the manpower supply.

The demand for educated manpower is often seen as being mainly a function of technological and market developments. Educational planning, as a rule, has not regarded manpower as an instrumental variable. But examples demonstrate that a comprehensive regulator system can ensure a balance between numbers and qualities of graduates from educational institutions on the one hand and demands of employers on the other. It can do this not only by regulating educational activities but also by influencing the demand for educated manpower. It can break down rigidities and mere conventions determining in many countries a large part of the manpower demand. It can - within limits - create employment opportunities, ensure possibilities of substitution, influence career patterns and salary structures. All this and much more is actually done in a number of countries, but often not in view of the effect on educational developments, including educational expenditure.

Comparisons of national forecasts of educational expenditure show that increase of income, prices, population and manpower demands are assumed to lead inevitably in the foreseeable future to ever increasing percentages of total resources required for formal education. We want to direct attention to the fact that this inevitability is only given under the assumption that the causal factors just mentioned are exogenous factors to the planning of education. We think they could all be treated as policy variables. This would greatly change the perspectives of expenditure developments in the sector of education.

Comparative analysis of unit outlay could be made more useful for educational planning. International comparisons of unit outlay so far are often meaningless, because they suffer from the many deficiencies in comparability which we have discussed in Chapter C I. Outlay definitions must be standardized and special conversion rates have to be used. If the technology of teaching and learning changes, other combinations of outlay components are possible. In this narrower field, as in overall social planning, the factors determining outlay should be regarded not only as variables explaining past expenditure per unit, but as variables which can be instrumental in bringing about future change. The facts brought out by expenditure analysis pose problems educational planners would otherwise perhaps not see. Confrontation with outlay consequences and with constraints on expenditure increase might induce a willingness to reform conventional educational organization and method that could otherwise not be expected.

This is not the place for a full discussion of possible outlay-changing reforms. We can only point to some of the most promising developments one can already observe in experimental schools and universities: the substitution of teaching machines and high-quality mass-produced programmes for personnel; the carrying out of functions now performed by highly qualified teachers, by less qualified personnel. These and other reforms could bring about considerable changes in expenditure per unit and in total expenditure. Together with the above-mentioned possibilities of planning education as an integral component of overall social planning, new methods and new techniques of teaching and learning can help to open more options for educational policy and to avert the danger of grave budgetary conflicts which is at present dominating the outlook of educational planners all over the world.

Chapter F

SUMMARY

1. The questions usually asked in comparative education are concerned with differences in structure, content and method. This study is centered around the "how much?" How much is spent from public sources on formal education? What international differences are to be found in the proportions of spending and in its intertemporal changes? How can these differences be explained? What are, in the light of comparative analysis, the prospects for planning future expenditure on education?

2. The data used in this study are mainly taken from the returns of questionnaires sent to member countries of Unesco, covering the years from 1950 to 1965. They are related to national aggregates taken mainly from publications of international agencies. In spite of continued efforts of the data-collecting organizations, the validity of the figures is very limited for international comparisons. With this general reservation, the following observations of main developments seem to be justified:

3. The data used for this study show one dominant feature: in the years 1951 to 1965 public expenditure on education has in general greatly increased in absolute terms and, more important, in relation to national aggregates. The increase was most pronounced in the period 1960-1965. The proportion of this expenditure in the National Income of a group of 90 countries was on an average 3.6% in 1960 and 4.5% in 1965.

4. The traditional international rank order of relative public efforts as regards education shows signs of dissolving. Between 1960 and 1965 many of the poorer countries increased the percentage of public education expenditure in the national aggregate faster than the richer countries.

5. The development in the distribution of total expenditure among levels of education indicates a continued general shift of weight towards the higher levels. The time seems to have gone when most countries devoted more than half their total educational expenditure to primary education.

6. A shift towards a relative increase in the capital component of total outlay seems significant for general development, more so, as yet, in the richer than in the poorer countries.

7. By a statistical test, based on a model of the main causal factors behind the international development of educational expenditure, three factors are, on the assumptions made, verified as dominant: (1) the National Income, (2) the size of the age group corresponding to levels of education, (3) the proportion of highly qualified manpower in the active population. These factors show in most countries a strong tendency to increase further and to influence future educational expenditure correspondingly. Other influences, in particular the demand for equal opportunities and the drive for qualitative improvements for formal education, are likely to give the expansion of educational budgets still more momentum.

8. Many of the forecasts of educational expenditure, however, are based on wrong premises. A discussion of possible interpretations of expenditure developments leads to the conclusion that the naïve correlations approach, as it has been used in some previous studies, should be abandoned. The notion of the one predetermined development path all nations have to follow appears as misleading. The patterns of circular causation explaining development, including education, are not helpful for educational planning. They might serve as an alibi for avoiding planned decisions.

9. The strong interdependency between educational expenditure and other components of social development suggest that education should be planned as an integral part of overall change towards a true human society. If this is done, factors considered so far mostly as exogenous variables become instrumental for educational planning. Population, manpower, total and differential income, finance of public needs and many other components of development can, in this context, be planned with educational objectives in view. This might drastically change the prospects for educational expenditure.

10. International comparisons of unit outlays can lead to better insight into the possible combinations of outlay components. Here too, explanatory variables found in analyses of the past should be treated

as instrumental for educational planning. Great changes of curriculum, technology and organization are in the making and are likely to alter considerably the structure of unit outlays.

11. In view of the necessity for a revision of past concepts and techniques of educational planning, the instruments provided by comparative education research and in particular by international comparisons of expenditure urgently need improvement. To continue the Unesco tradition of collecting and presenting financial data can only be justified if still stronger efforts are made to standardize these data.

Direct international comparisons of absolute total amounts of educational expenditure are at present almost meaningless; they are not sufficiently standardized as regards definition and not at all standardized as regards purchasing power. The official conversion rates used to make outlay amounts internationally comparable can be assumed frequently to distort the true relative values. Direct comparisons of outlays per student or outlays related to some other unit calculated on the basis of such totals of expenditure are also generally meaningless.

12. Even if the more technical problems of comparability, in particular the problems of definition and of purchasing power of expenditure amounts, were solved, what these expenditures mean in terms of results would remain an open question. The effectiveness of educational outlays may differ very much. Comparisons of outlay data, therefore, are likely to gain in validity if they are restricted to institutions, regions and countries of a similar general structure.

13. International comparisons of well standardized educational expenditure could serve as a first orientation as regards trends. The value of such comparisons is improved if they are based on changes in proportions, rather than on changes in absolute amounts. Such comparisons may have at least the value of pointing out situations where more comprehensive investigations might be recommendable in order to explain international differences in the trends of educational spending.

14. The patterns of expenditure sizes, relations and changes, emerging from comparative international analysis, can be useful as checks during the phase of programming an educational plan and as rechecks during the phase of controlling its implementation. In some ways this can be compared to the uses of past data constellations in working out alternatives for business decisions.

15. It follows, however, from this study that it does not make sense to use the percentage of National Income spent on formal education in one point of time in one country as a target for educational plans in another country. On the contrary, the present survey of expenditure developments and their interpretation leads to the conclusion that all countries should feel free to plan education in the context of overall social planning according to their needs and conditions. They can learn by comparing internationally the interplay of factors resulting in certain amounts and proportions of educational expenditure. But they should avoid being led by such comparisons to a perpetuation of past expenditure patterns.

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ANNEX I

PUBLIC EXPENDITURE ON EDUCATION AND RELATED DATA IN 35 SELECTED COUNTRIES

I. SELECTION OF COUNTRIES

The data sheets in Annex I present statistical information relevant to this study for 35 countries. Criteria applied in selecting these countries were (a) availability of data and (b) geographical distribution of the countries. These countries represent the sample on which the main part of the analysis is based. For further details see Chapter A, "Introduction".

The countries are:

Africa

Ghana
Kenya
Malawi
Morocco
Sierra Leone
UAR
Zambia

America, North

Canada
Jamaica
Mexico
Puerto Rico
U.S.A.

America, South

Argentina
Chile
Colombia
Ecuador
Guyana
Paraguay

Asia

Ceylon
China (Taiwan)
India
Japan
Pakistan

Europe

Belgium
Czechoslovakia
France
Germany, Fed. Rep. of
Hungary
Italy
Poland
Romania
Sweden
United Kingdom
USSR
Yugoslavia

II. DEFINITIONS

1. National Income

The concept of the National Income (net material product at factor cost) in the definition of the United Nations Standardized System of National Accounts has been used as an expression for the volume of economic activity in a given country. This concept has been preferred to the Gross National Product because the former is available for a larger number of countries. In those cases where the National Income was not available, the Gross National Product, or the Gross Domestic Product or the Net Material Product served as the basis of reference.

2. Total public expenditure

If not otherwise indicated, total public expenditure comprises public expenditure at all governmental levels: central or federal, state, provincial, county, municipal or any other local level.

3. Public expenditure on education

Public expenditure on education includes public expenditure on public and on private education. The latter consists, in general, of public subventions to private (government aided) schools. Private expenditure on private education, though in some countries rather important, has been excluded due to the lack of adequate information.

The figures provided represent, in general, actual expenditures. In some cases, however, they are budget allocations indicated by a special footnote.

For a detailed breakdown of individual expenditure components, see Unesco Questionnaires on Statistics of Educational Finance and Expenditure (Annex II). Debt Service, where applicable, has been included in capital expenditure.

4. Economically active population according to ISCO

Group 0: Professional, technical and related workers
Group 1: Administrative, executive and managerial workers
Group 2: Clerical workers
Group 3: Sales workers

III. SOURCES

If not otherwise indicated, the following sources have been used with respect to the various lines of the tables presented in Annex I:

National Income or any other national aggregate, (line 1).
United Nations Yearbook of National Accounts Statistics

Total public expenditure, (line 2).
United Nations Yearbook of National Accounts Statistics

Public expenditure on education, (lines 3, 4, 5, 8, 9, 10).
Unesco Questionnaire on Statistics of Educational Finance and Expenditure

Enrolment (lines 13, 14, 15).
Unesco Questionnaires on Statistics of Education

Teachers (lines 16, 17, 18).
Unesco Questionnaires on Statistics of Education

Population (lines 19, 20, 21, 22).
United Nations Demographic Yearbook

Active population according to the International Standard Classification of Occupations (ISCO), (lines 23 and 24).
International Labour Office Yearbook of Labour Statistics

Energy Consumption (line 25).
United Nations Statistical Yearbook.

IV. GENERAL NOTES

As a general rule, data have been presented for 1950, 1953, 1957 and 1960-1965. However, with respect to the years prior to 1960, a year preceding or following the year indicated was chosen if more complete data were available.

An asterisk (*) denotes an estimate made by the Statistical Services of the individual countries.

A blank cell indicates that no data were available.

Ghana

Currency : Cedis (in thousands)

Public Expenditure on Education and Related Data

	1950	1952	1957	1960	1961	1962	1963	1964	1965
1. Gross National Product	428 000	528 000	881 000	1 135 000	1 210 000	1 301 000	1 428 000	1 620 000	1 886 000
2. Total public expenditure			80 600	117 800	151 200	153 600	172 000	207 000	227 000
3. Total public expenditure on education	5 875	*17 019	*20 901	*38 191	*41 156	*53 192	*64 871	a) 83 866	77 410
4. Of which: Recurring	5 714	16 958	15 746	33 710	33 242	41 474	58 828	71 245	73 014
5. Capital	161	40	5 128	4 432	7 861	11 650	5 960	12 621	4 396
6. 4 as percentage of 3	97.3	99.8	75.4	88.4	80.9	78.1	90.8	85.0	94.3
7. 5 as percentage of 3	2.7	0.2	24.6	11.6	19.1	21.9	9.2	15.0	5.7
8. Recurring expenditure on 1st level education (% of 4)	23.1	24.8	42.8	24.8	37.8				
9. Recurring expenditure on 2nd level education (% of 4)	14.8	11.9	18.4	19.2	22.0				
10. Recurring expenditure on 3rd level education (% of 4)	15.1	7.7	20.5	13.3	16.2				
11. 3 as percentage of 1	1.37	3.22	2.37	3.36	3.40	4.09	4.54		4.87
12. 3 as percentage of 2			25.93	32.42	27.22	34.63	37.72		34.10
13. Number of students: 1st level [b]	271 954	418 921	468 021	664 322	700 980	789 000	927 489	1 088 344	1 145 488
14. Number of students: 2nd level [b]	8 884	11 622	148 383	180 131	203 626	236 500	265 903	322 762	346 291
15. Number of students: 3rd level	c) 210	c) 533	2 163	2 959	c) 1 338	c) 2 064	3 440	3 848	4 267
16. Teachers per 1 000 students: 1st level [b]	33.09	36.45	32.58	31.87	34.78	38.68	27.69	30.26	31.43
17. Teachers per 1 000 students: 2nd level [b]	74.85		35.95	34.10			33.97	34.73	35.21
18. Teachers per 1 000 students: 3rd level	28.10			82.80			142.44	146.57	140.61
19. Total population			6 250 000	6 777 000	6 960 000	7 148 000	7 340 000	7 537 000	7 740 000
20. Population aged 5-14				1 699 881					
21. Population aged 15-19				541 076					
22. Population aged 20-24				590 912					
23. Active population in ISCO groups 0 and 1 (%)				2.7					
24. Active population in ISCO groups 0, 1, 2, 3, (%)				17.0					
25. Energy consumption per capita	110		99	99	92	98	104		120

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a) Fiscal year of fifteen months - b) For the years 1950 and 1952 intermediate schools were included with primary education: from 1957 these are included with general education at the second level - c) Universities only.

Kenya

Currency : Pounds (in thousands)

Public Expenditure on Education and Related Data

	1950	1954	1960	1961	1962	1963	1964	1965
1. Gross Domestic Product at factor cost	* 105 000	158 000	225 500	224 700	224 100	259 100	281 300	287 600
2. Total public expenditure	12 504	39 055	43 413	52 609	46 686	60 437	63 644	68 132
3. Total public expenditure on education	2 080	3 872	10 400	10 700	11 607	12 375	13 445	15 985
4. Of which : Recurring	1 311	3 461			11 140	11 990	12 872	14 705
5. Capital	769	411			467	377	573	1 280
6. 4 as percentage of 3	63.0	89.4			96.0	96.9	95.7	92.0
7. 5 as percentage of 3	37.0	10.6			4.0	3.1	4.3	8.0
8. Recurring expenditure on 1st level education (% of 4)	35.0	60.2		64.3	* 61.3		59.0	54.4
9. Recurring expenditure on 2nd level education (% of 4)	29.2	35.8		* 25.9	* 29.2		25.9	29.5
10. Recurring expenditure on 3rd level education (% of 4)	1.0			* 7.3	* 6.5		11.2	15.1
11. 3 as percentage of 1	1.98	2.45	4.61	4.76	4.76	4.78	4.78	5.56
12. 3 as percentage of 2		9.91	23.96	20.34	24.86	20.48	21.13	23.46
13. Number of students : 1st level	365 061	386 211	781 295	870 448	935 766	891 553	1 014 719	1 010 889
14. Number of students : 2nd level	17 984	12 256	27 168	29 383	32 825	38 040	41 813	54 338
15. Number of students : 3rd level			340	495	602	845	1 082	2 308
16. Teachers per 1 000 students : 1st level	21.07	26.07	23.83	23.20	24.21	25.54	27.42	30.26
17. Teachers per 1 000 students : 2nd level	68.17	74.82	66.48	63.91		57.41	55.39	55.50
18. Teachers per 1 000 students : 3rd level			176.47					
19. Total population	6 018 000	6 783 000	8 115 000	8 352 000	8 595 000	8 847 000	9 104 000	9 365 000
20. Population aged 5-14			2 054 300		2 493 300			2 560 900
21. Population aged 15-19			850 800		853 000			988 300
22. Population aged 20-24			681 200		687 800			832 800
23. Active population in ISCO groups 0 and 1 (%)								
24. Active population in ISCO groups 0, 1, 2, 3, (%)								
25. Energy consumption per capita	80			122	132	138	129	

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1964, 1967.

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a) The African educational system was reorganized in 1951, lengthening the primary school course from 6 to 8 years and shortening the secondary school course from 6 to 4 years - b) Teacher training at the third level is included with education at the second level.

Malawi

Currency : Pounds (in thousands)

Public Expenditure on Education and Related Data

	1950	1952	1957	1960	1961	1962	1963	1964	1965
1. Gross National Product			36 800	43 200	44 400	46 800	48 200	58 000	66 200
2. Total public expenditure	3 598	3 905	8 025	8 341	11 325	11 447	11 311	18 779	21 633
3. Total public expenditure on education	209	321	1 212	a) 1 607	1 492	1 760		b) 2 397	3 201
4. Of which : Recurring	204	293	780	1 194	1 118	1 387		1 811	2 524
5. Capital	5	28	432	413	374	373		586	677
6. 4 as percentage of 3	97.6	91.3	64.4	74.3	74.9	78.9		75.5	78.9
7. 5 as percentage of 3	2.4	8.7	35.6	25.7	25.1	21.1		24.5	21.1
8. Recurring expenditure on 1st level education (% of 4)	60.3	57.3	69.4	70.8		64.1		57.8	58.7
9. Recurring expenditure on 2nd level education (% of 4)	17.2	17.4	24.7	24.5		29.9		c) 33.6	29.8
10. Recurring expenditure on 3rd level education (% of 4)	1.0	1.0						c) 6.0	7.4
11. 3 as percentage of 1			3.29	3.72	3.36	3.76		4.13	4.84
12. 3 as percentage of 2	5.81	8.22	15.10	19.27	13.17	15.37		12.77	14.80
13. Number of students : 1st level	220 249	225 044	d) 263 400	d) 285 163	d) 286 839	d) 328 000	d)* 367 378	d) 361 370	d) 331 279
14. Number of students : 2nd level [d]	344	637	2 288	3 183	3 407	4 494		8 777	10 495
15. Number of students : 3rd level									d) 192
16. Teachers per 1 000 students : 1st level	22.14	19.68	d) 23.35	d) 24.46	d) 25.35	d) 22.99	d)* 21.60	d) 25.76	d) 25.73
17. Teachers per 1 000 students : 2nd level [d]				73.20	66.92			64.94	60.06
18. Teachers per 1 000 students : 3rd level								152.38	d) 201.15
19. Total population			3 250 000	3 490 000	3 580 000	3 665 000	3 753 000	3 845 000	3 940 000
20. Population aged 5-14				805 000		970 000			979 000
21. Population aged 15-19				332 000		330 000			391 000
22. Population aged 20-24				299 000					352 000
23. Active population in ISCO groups 0 and 1 (%)									
24. Active population in ISCO groups 0, 1, 2, 3, (%)									
25. Energy consumption per capita					33	34		36	42

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1960, 1964, 1967.

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a) Including a part of private expenditure (Voluntary Agencies) - b) Expenditure of Department of Education only - c) Teacher training at third level is included with second level - d) African education only.

Morocco

Currency : Dirhams (in thousands)

Public Expenditure on Education and Related Data

	1951	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	3 980 000	5 270 000	6 420 000	8 010 000	7 830 000	9 290 000	10 470 000	11 140 000	11 760 000
2. Total public expenditure					2 067 000	2 327 000	2 760 000	3 052 000	2 364 000
3. Total public expenditure on education [a]	164 610	230 840	b) 177 316		342 003	420 019	452 854	465 923	499 194
4. Of which : Recurring	91 690	126 160	177 316		317 368	361 019	414 171	427 292	441 534
5. Capital	72 920	104 680			24 635	59 000	38 683	38 631	57 660
6. 4 as percentage of 3	55.7	54.7			92.8	86.0	91.5	91.7	88.4
7. 5 as percentage of 3	44.3	45.3			7.2	14.0	8.5	8.3	11.6
8. Recurring expenditure on 1st level education (% of 4)	45.9	48.9	51.2		61.2	59.4	63.5	62.4	61.5
9. Recurring expenditure on 2nd level education (% of 4)	17.3	16.7	21.1		31.2	26.2	29.6	31.4	31.7
10. Recurring expenditure on 3rd level education (% of 4)	2.7	3.1	11.5		5.3	5.0	4.9	4.4	4.7
11. 3 as percentage of 1	4.14	4.38			4.37	4.52	4.33	4.18	4.24
12. 3 as percentage of 2					16.50	18.00	16.40	15.30	21.10
13. Number of students : 1st level	c)d) 257 764	271 294	608 443	795 893	950 389	* 1 017 268	1 075 300	1 096 798	1 115 745
14. Number of students : 2nd level	c) 17 963	26 517	38 080	86 051	98 199	116 106		173 761	184 927
15. Number of students : 3rd level	c) 1 326	1 530	2 208	4 665	4 941	5 456	8 682	10 136	
16. Teachers per 1 000 students : 1st level	c)d) 38.26	34.33		23.59		21.87	23.09	26.53	25.87
17. Teachers per 1 000 students : 2nd level	c) 42.08	55.81				e) 38.46			47.39
18. Teachers per 1 000 students : 3rd level				30.01	34.81			44.49	
19. Total population	f) 9 106 000	f) 9 571 000	10 688 000	11 640 000	12 030 000	12 360 000	12 665 000	12 959 000	13 323 000
20. Population aged 5-14				2 965 500	3 126 000		3 448 000		
21. Population aged 15-19				724 450	909 000		1 279 300		
22. Population aged 20-24				897 550	955 000		1 071 000		
23. Active population in ISCO groups 0 and 1 (%)				3.5					
24. Active population in ISCO groups 0, 1, 2, 3, (%)				11.1					
25. Energy consumption per capita	150	220		139	142	109	142	149	153

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1964.

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a) Expenditure of Department of Education only - b) Recurring expenditure only - c) 1950 - d) Including pre-primary education for the former Spanish zone, excluding private schools for the former French zone - e) Not including teacher training at the second level - f) Excluding southern part of Northern Zone (former Spanish protectorate).

Sierra Leone

Currency : Pounds (in thousands)

Public Expenditure on Education and Related Data

	1950	1952	1957	1959	1961	1962	1963	1964	1965
1. National Income							91 000	102 000	107 000
2. Total public expenditure	2 979	5 402	9 351	11 857	13 919	14 612	15 972		
3. Total public expenditure on education	396	581	1 791	2 137	a) 2 665	a) 2 561		a) 3 027	a) 4 355
4. Of which : Recurring	301	452	1 489	1 651	1 976	2 123		2 660	3 424
5. Capital	95	129	302	486	689	438		367	931
6. 4 as percentage of 3	76.0	77.8	83.1	77.3	74.1	82.9		87.9	78.6
7. 5 as percentage of 3	24.0	22.2	16.9	22.7	25.9	17.1		12.1	21.4
8. Recurring expenditure on 1st level education (% of 4)	35.2	36.9	24.3	23.8	b) 44.0	30.6		b) 50.0	b) 57.0
9. Recurring expenditure on 2nd level education (% of 4)	35.9	23.0	23.3	25.6	b) 30.0	27.0		b) 36.4	b) 30.4
10. Recurring expenditure on 3rd level education (% of 4)	5.6	16.6	13.2	14.9	b) 26.0	21.8		b) 13.6	b) 12.6
11. 3 as percentage of 1								2.97	4.07
12. 3 as percentage of 2	13.29	10.76	19.15	18.02	19.15	17.53			
13. Number of students : 1st level	34 520	39 216	61 881	74 481	98 088	105 805	110 956	119 645	
14. Number of students : 2nd level	3 041	3 494	* 7 640	7 886	10 397	11 631	13 437	15 169	
15. Number of students : 3rd level	214		295	363	418	679	575	739	930
16. Teachers per 1 000 students : 1st level	26.77	28.08	30.11	29.11	28.39	30.14	27.50	31.57	
17. Teachers per 1 000 students : 2nd level	53.60	* 49.23	* 40.71	61.63	57.13	56.74	58.79	54.59	
18. Teachers per 1 000 students : 3rd level	88.78		155.93	157.02	177.03	141.38	186.09		
19. Total population	2 004 000	2 047 000	2 159 000	2 205 000	2 252 000	2 276 000	2 298 000	2 332 000	2 367 000
20. Population aged 5-14						* 414 000	423 069	* 433 000	
21. Population aged 15-19						* 190 000	194 378	* 199 000	
22. Population aged 20-24						* 187 000	190 784	* 195 000	
23. Active population in ISCO groups 0 and 1 (%)							1.5		
24. Active population in ISCO groups 0, 1, 2, 3, (%)							7.2		
25. Energy consumption per capita	30	30	54	59	60	72	90	70	

Sources : For line 1. Monthly Bulletin of Statistics. United Nations, April 1968.
For line 2. Statesman's Yearbook. London, Macmillan, 1955, 1960, 1964, 1967.

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a) Central Government expenditure only - b) Teachers' salaries only.

United Arab Republic

Currency : Egyptian Pounds (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	* 860 000	858 000	1 086 000	a) 1 459 000	a) 1 513 000	a) 1 685 000	a) 1 894 000	a) 2 058 000	
2. Total public expenditure		b) 197 516	290 380	345 959		1 012 622	1 079 406	1 184 400	1 205 000
3. Total public expenditure on education	c) 22 972	c) 29 435	b) 43 419		73 475	84 293	101 295	97 843	110 323
4. Of which : Recurring			43 419		65 445	75 179	85 634	89 243	101 765
5. Capital					8 031	9 114	15 661	8 600	8 558
6. 4 as percentage of 3					89.1	89.2	84.5	91.2	92.2
7. 5 as percentage of 3					10.9	10.8	15.5	8.8	7.8
8. Recurring expenditure on 1st level education (% of 4)	d) 76.2	d) 40.1	27.1		82.3	75.7	75.4	74.5	76.9
9. Recurring expenditure on 2nd level education (% of 4)		d) 31.3	28.3						
10. Recurring expenditure on 3rd level education (% of 4)			13.8		13.8	20.8	20.9	21.4	19.2
11. 3 as percentage of 1	2.67	3.43			4.86	5.00	5.35	4.75	
12. 3 as percentage of 2						8.32	9.38	8.26	9.16
13. Number of students : 1st level [e]	1 310 169	1 395 729	2 136 645	2 663 247	2 806 715	2 909 996	3 129 692	3 334 738	3 450 338
14. Number of students : 2nd level		486 642	501 171	546 241	596 744	638 474	710 343	845 948	f) 996 555
15. Number of students : 3rd level [g]	33 595	56 966	82 843	106 780	114 619	143 251	145 651	144 496	177 123
16. Teachers per 1 000 students : 1st level [e]	34.15	32.86	26.00	25.41	25.32	26.16	25.86	25.78	25.32
17. Teachers per 1 000 students : 2nd level		45.21	64.30	61.76	60.02	60.01	58.68	54.28	49.49
18. Teachers per 1 000 students : 3rd level [g]			42.73	39.81	41.56		43.32	72.02	
19. Total population	20 461 000	21 943 000	24 087 000	25 832 000	26 557 000	27 244 000	27 968 000	* 28 900 000	* 29 600 000
20. Population aged 5-14				6 977 627	* 7 128 000				
21. Population aged 15-19				2 154 435	* 2 200 000				
22. Population aged 20-24				1 795 348	* 1 834 000				
23. Active population in ISCO groups 0 and 1 (%)				4.1					
24. Active population in ISCO groups 0, 1, 2, 3, (%)				15.7					
25. Energy consumption per capita	220	220	h) 248	290	279	287	303	321	301

Sources : For line 1. Statesman's Yearbook. London, Macmillan, 1964, 1967.

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a) Gross Domestic Product - b) Recurring expenditure only - c) Expenditure of Department of Education only - d) Including capital expenditure - e) Reorganization of the school system in 1952 affects the comparability of figures before and after this date - f) Including data on general secondary schools of Al Azhar University - g) Not including Al Azhar University enrolling pupils at all levels - h) 1958.

Zambia

Currency : Pounds (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1956	1960	1961	1962	1963	1964	1965
1. National Income	37 500	87 100	147 700	169 000	164 000	160 000	169 000	185 000	231 000
2. Total public expenditure		12 100	16 500	25 811	27 266	27 333	45 464	106 654	140 026
3. Total public expenditure on education	a) 504	904	a) 2 242	a) 3 416	a) 4 166	a) 5 242	6 788	9 327	18 042
4. Of which : Recurring			1 734	2 583	2 993	3 436	4 802	6 997	9 822
5. Capital			508	833	1 173	1 806	1 986	2 330	8 220
6. 4 as percentage of 3			77.3	75.6	71.8	65.5	70.7	75.0	54.4
7. 5 as percentage of 3			22.7	24.4	28.2	34.5	29.3	25.0	45.6
8. Recurring expenditure on 1st level education (% of 4)			68.3		58.2	58.7			
9. Recurring expenditure on 2nd level education (% of 4)			15.3		14.8	13.0			
10. Recurring expenditure on 3rd level education (% of 4)									1.4
11. 3 as percentage of 1	1. 34	1.04	1.52	2.02	2.54	3.28	4.02	5.04	7.81
12. 3 as percentage of 2		7.47	13.59	13.20	15.30	19.20	14.90	8.70	12.90
13. Number of students : 1st level	a) 161 838		a) 209 599	a) 287 538	a) 304 828	a) 328 770	a) 348 342	375 032	410 150
14. Number of students : 2nd level [b]	a) 1 178		a) 4 792	a) 5 200	a) 7 298	a) 8 205		16 527	20 689
15. Number of students : 3rd level									
16. Teachers per 1 000 students : 1st level			21.86	19.80	20.23	19.43	18.52	19.73	19.59
17. Teachers per 1 000 students : 2nd level [b]			65.38	74.04	64.66			60.87	53.85
18. Teachers per 1 000 students : 3rd level									
19. Total population	2 440 000	2 650 000	2 870 000	3 210 000	3 300 000	3 400 000	3 495 000	3 600 000	3 710 000
20. Population aged 5-14				826 000		• 862 800	881 200		940 000
21. Population aged 15-19				315 000		• 329 300	336 400		359 000
22. Population aged 20-24				284 000		• 297 000	303 300		323 000
23. Active population in ISCO groups 0 and 1 (%)									2.9
24. Active population in ISCO groups 0, 1, 2, 3, (%)									4.8
25. Energy consumption per capita	480	510		417	458	428	337	431	487

Sources : For line 2. Unesco questionnaires on statistics of educational finance and expenditure, from 1960 to 1965.

a) African education only - b) Including teacher training at the third level.

Canada

Currency : Dollars (in thousands)

Public Expenditure on Education and Related Data

	1950	1955	1957	1960	1961	1962	1963	1964	1965
1. National Income	14 073 000	19 267 000	23 950 000	27 380 000	28 311 000	30 557 000	32 772 000	35 329 000	38 084 000
2. Total public expenditure	2 965 000	5 156 000	6 084 000	9 452 000	9 467 000	10 853 000	10 480 000	11 962 000	12 980 000
3. Total public expenditure on education	434 000	586 500	1 090 522	1 590 595	1 718 886	2 255 084	2 370 435	2 597 822	3 090 160
4. Of which : Recurring		402 200	874 354	1 290 254	1 362 725	1 628 956	1 889 675	2 100 795	2 478 273
5. Capital		92 100	216 208	300 341	356 159	630 738	480 552	496 927	611 887
6. 4 as percentage of 3		84.2	80.2	81.1	80.0	72.8	79.7	81.8	75.8
7. 5 as percentage of 3		15.8	19.8	18.9	20.0	27.2	20.3	18.8	25.8
8. Recurring expenditure on 1st level education (% of 4)		90.4	91.2	90.6	90.8	91.4	77.8	75.2	73.8
9. Recurring expenditure on 2nd level education (% of 4)									
10. Recurring expenditure on 3rd level education (% of 4)		5.7	8.1	9.8	9.7	15.6	17.4	20.3	26.5
11. 3 as percentage of 1	3.08	3.05	4.55	5.81	6.23	7.38	7.23	7.35	8.11
12. 3 as percentage of 2	15.23	10.91	16.32	16.50	18.16	22.44	22.62	23.86	27.20
13. Number of students : 1st level	2 047 897	2 404 083	2 858 271	3 308 857	3 520 974	3 524 400	3 628 592	3 451 800	3 560 018
14. Number of students : 2nd level	461 429	437 065	621 427	994 132	994 096	1 107 212		* 1 451 862	
15. Number of students : 3rd level	81 482	80 223	a) 101 754	142 003	103 535	176 287	199 174	280 597	303 027
16. Teachers per 1 000 students : 1st level	33.79	* 36.12	37.34	38.36	37.42	40.59	* 39.48	37.88	37.02
17. Teachers per 1 000 students : 2nd level	42.35	* 54.89	* 47.36		45.63	42.33		47.34	
18. Teachers per 1 000 students : 3rd level	* 89.72	* 101.33	a) 85.73	136.88			124.36	95.72	98.01
19. Total population	13 737 000	14 886 000	16 677 000	17 909 000	18 269 000	18 600 000	19 521 000	19 271 000	19 604 000
20. Population aged 5-14	2 636 700	2 797 800	3 576 900	3 751 000	3 905 525		* 4 116 000	4 180 500	4 253 900
21. Population aged 15-19	1 076 600	1 091 700	1 214 300	1 375 700	1 402 559		* 1 600 200	1 692 800	1 776 100
22. Population aged 20-24	1 108 400	1 107 100	1 163 600	1 227 500	1 283 046		* 1 255 500	1 310 900	1 377 300
23. Active population in ISCO groups 0 and 1 (%)					18.3				
24. Active population in ISCO groups 0, 1, 2, 3, (%)					38.8				
25. Energy consumption per capita	6 500	6 840	5 557	5 455	5 655	6 985	6 558	7 227	7 455

a) Excluding Institutes of Technology ; students and teaching staff are full-time only.

Jamaica
Currency : Pounds (in thousands)

Public Expenditure on Education and Related Data

	1950	1952	1954	1960	1961	1962	1963	1964	1965
1. National Income	68 300	90 100	143 200	191 200	206 100	213 200	227 400	244 100	264 500
2. Total public expenditure	7 927	19 715	17 300	29 100	32 900	35 100	38 900	41 900	46 500
3. Total public expenditure on education	1 578	2 108	3 542	5 655		6 025	6 545	7 586	
4. Of which : Recurring	1 494	2 063		4 779		5 098	5 785	6 700	
5. Capital	84	45		876		927	759	886	
6. 4 as percentage of 3	94.7	97.7		84.5		84.6	88.3	88.3	
7. 5 as percentage of 3	5.3	2.3		15.5		15.4	11.5	11.7	
8. Recurring expenditure on 1st level education (% of 4)	54.4	65.9		47.3		a) 55.7		51.7	
9. Recurring expenditure on 2nd level education (% of 4)	14.9	15.8		18.2		a) 36.3		27.5	
10. Recurring expenditure on 3rd level education (% of 4)	7.4	9.6		7.3		a) 8.2		7.6	
11. 3 as percentage of 1	2.38	2.33	2.47	2.96		3.19	2.88	3.11	
12. 3 as percentage of 2	19.94	10.64	20.47	19.22		16.58	16.82	18.11	
13. Number of students : 1st level	218 585	213 037	* 225 000	247 938	267 489	281 439	312 329	316 239	325 853
14. Number of students : 2nd level	7 901	9 823	19 033	25 103	25 997		34 218	37 132	b) 34 898
15. Number of students : 3rd level	636		494	1 593	2 476	c) 1 218	c) 1 486	c) 1 598	c) 1 898
16. Teachers per 1 000 students : 1st level	25.14	26.22	* 26.18	18.31	27.34	18.37	18.08	17.48	17.40
17. Teachers per 1 000 students : 2nd level	43.47	45.39	* 45.80	47.73	58.08		46.19	47.78	b) 48.39
18. Teachers per 1 000 students : 3rd level				136.86	135.96				
19. Total population	1 385 000	1 425 000	1 519 000	1 629 000		1 661 000	1 696 000	1 742 000	1 788 000
20. Population aged 5-14	311 800	323 100	315 700	386 417					
21. Population aged 15-19	143 300	144 100	149 500	166 808					
22. Population aged 20-24	125 000	129 900	132 200	124 873					
23. Active population in ISCO groups 0 and 1 (%)				5.9					
24. Active population in ISCO groups 0, 1, 2, 3, (%)				15.2					
25. Energy consumption per capita	d) 310	180	424	521	486	497	477	1 866	

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a) Including debt service - b) Full-time only - c) University only - d) 1949.

Mexico

Currency : Pesos (in thousands)

Public Expenditure on Education and Related Data

	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	52 601 000	103 077 000	139 084 000	147 802 000	160 476 000	173 800 000	203 200 000	220 000 000
2. Total public expenditure	5 490 400	8 649 500	10 251 300	11 041 500	12 319 800	13 801 000	15 954 000	17 855 000
3. Total public expenditure on education	a) 479 700	a) 1 027 810	b) 1 884 700	b) 2 112 250	b) 2 577 920	b) 3 012 312	b) 4 062 066	b) 4 563 044
4. Of which : Recurring	449 200		1 778 590	2 005 903	2 474 767	2 700 278	4 037 985	4 532 274
5. Capital	30 500		106 110	106 347	103 153	312 034	24 081	30 770
6. 4 as percentage of 3	93.6		94.4	95.0	96.0	89.6	99.4	99.3
7. 5 as percentage of 3	6.4		5.6	5.0	4.0	10.4	0.6	0.7
8. Recurring expenditure on 1st level education (% of 4)	46.4		56.5	c) 55.0	c) 48.6	c) 52.4	c) 38.4	c) 40.3
9. Recurring expenditure on 2nd level education (% of 4)	18.4			c) 12.4	c) 13.9	c) 15.0	c) 11.1	c) 12.5
10. Recurring expenditure on 3rd level education (% of 4)				c) 15.2	c) 12.8	c) 13.9	c) 12.3	c) 12.7
11. 3 as percentage of 1	0.91	1.00	1.36	1.43	1.61	1.73	2.00	2.07
12. 3 as percentage of 2	8.74	11.88	18.38	19.13	20.93	21.83	25.46	25.55
13. Number of students : 1st level	3 098 076	3 880 192	4 884 988	5 368 247	5 620 324	6 094 850	6 530 751	6 916 204
14. Number of students : 2nd level	139 493	300 672	401 997	539 950	612 701	674 408	787 717	891 390
15. Number of students : 3rd level		55 481	76 982	94 073	101 138	110 172	116 628	133 374
16. Teachers per 1 000 students : 1st level	25.07	24.29	22.75	21.86	22.54	21.60	21.74	21.43
17. Teachers per 1 000 students : 2nd level	137.83	* 107.60	89.85	89.62	97.89	84.95		
18. Teachers per 1 000 students : 3rd level			49.92		120.35			128.74
19. Total population	28 701 000	32 607 000	36 046 000	37 268 000	38 543 000	39 871 000	41 253 000	42 689 000
20. Population aged 5-14			9 675 360	* 9 982 400				
21. Population aged 15-19			3 535 265	* 3 647 447				
22. Population aged 20-24			2 947 072	* 3 040 590				
23. Active population in ISCO groups 0 and 1 (%)			4.4					
24. Active population in ISCO groups 0, 1, 2, 3, (%)			19.5					
25. Energy consumption per capita	640	820	915	963	916	936	1 029	977

Sources : For line 2 : Statesman's Yearbook. London, Macmillan, 1955, 1960, 1964, 1967.

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a) Expenditure of Federal Government only - b) Expenditure of Department of Education only -
c) Including capital expenditure

Puerto Rico

Currency: U.S. Dollars (in thousands)

Public Expenditure on Education and Related Data

	1951	1953	1957	1959	1961	1962	1963	1964	1965
1. National Income	832 200	933 600	1 136 400	1 354 800	1 695 300	1 912 500	2 084 700	2 289 300	2 525 000
2. Total public expenditure									
3. Total public expenditure on education	40 000	54 521	82 227	101 426	129 608	134 537	140 646	146 000	151 715
4. Of which: Recurring	38 000	51 700	78 392	90 648	118 695	124 733	130 898	135 820	141 130
5. Capital	2 000	2 821	3 835	10 778	10 913	9 804	9 748	10 180	10 585
6. 4 as percentage of 3	95.0	94.8	95.3	89.4	91.6	92.7	93.1	93.0	93.0
7. 5 as percentage of 3	5.0	5.2	4.7	10.6	8.4	7.3	6.9	7.0	7.0
8. Recurring expenditure on 1st level education (% of 4)	}	} 41.6	} 40.6	} 68.5	} 70.0	} 75.3	} 75.7	} 74.8	} 73.5
9. Recurring expenditure on 2nd level education (% of 4)									
10. Recurring expenditure on 3rd level education (% of 4)		6.5	8.9	24.5	28.7	24.7	24.3	25.2	26.5
11. 3 as percentage of 1	4.81	5.84	7.24	7.49	7.65	7.03	6.75	6.38	6.01
12. 3 as percentage of 2									
13. Number of students: 1st level[a]	365 220	409 680	524 355	523 483	434 868	b) 426 931	441 116	b) 456 876	b) 453 725
14. Number of students: 2nd level[c]	107 774	128 914	88 980	99 869	195 021	221 086	219 783	224 520	241 626
15. Number of students: 3rd level	11 277	13 238	18 292	19 827	24 894	30 006	30 648	35 230	40 294
16. Teachers per 1 000 students: 1st level[a]	18.97	18.70	17.20	17.91	23.98	b) * 23.40	24.56	b) 25.02	b) 25.80
17. Teachers per 1 000 students: 2nd level[a]	26.39	24.83	54.10	55.64	30.27	* 31.08	31.42	30.46	34.00
18. Teachers per 1 000 students: 3rd level	66.68	76.66	87.91	76.81	76.92	* 79.98	81.34	80.33	79.42
19. Total population	2 235 000	2 204 000	2 260 000	2 322 000	2 409 000	2 459 000	2 520 000	2 578 000	2 633 000
20. Population aged 5-14					* 649 000	* 650 300	* 646 900	648 800	701 200
21. Population aged 15-19					* 249 000	* 252 200	* 254 200	252 400	249 100
22. Population aged 20-24					* 180 000	* 190 800	* 204 200	210 700	209 000
23. Active population in ISCO groups 0 and 1 (%)									
24. Active population in ISCO groups 0, 1, 2, 3, (%)									
25. Energy consumption per capita	540	780	1 088	1 210	1 448	1 700	1 696	1 787	2 125

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a) Grades I-VI for all years with the exception of 1957 and 1959 where figures refer to grades I-VIII - b) Including pre-primary education - c) Data for general education at the second level refer to grades VII-XII for all years with the exception of 1957 and 1959 where figures refer to grades IX-XII.

United States of America

Currency : Dollars (in millions)

Public Expenditure on Education and Related Data

	1951	1953	1957	1959	1961	1962	1963	1964	1965
1. National Income	278 466	306 600	368 200	402 400	430 100	460 600	485 300	521 000	562 900
2. Total public expenditure	65 457	87 200	102 000	114 400	132 200	141 200	147 200	155 200	164 200
3. Total public expenditure on education	8 684	11 084	16 748	19 447	23 000	27 137	29 033	32 713	36 687
4. Of which : Recurring	7 004	8 672	13 300	16 139	18 400	22 100	23 642	26 362	29 476
5. Capital	1 680	2 412	3 448	3 308	4 600	5 037	5 391	6 351	7 211
6. 4 as percentage of 3	80.7	78.2	79.4	83.0	80.0	81.4	81.4	80.6	80.3
7. 5 as percentage of 3	19.3	21.8	20.6	17.0	20.0	18.6	18.6	19.4	19.7
8. Recurring expenditure on 1st level education (% of 4)	83.8	81.8	80.9	80.2	80.4	76.0	75.7	75.0	74.1
9. Recurring expenditure on 2nd level education (% of 4)									
10. Recurring expenditure on 3rd level education (% of 4)	11.7	18.2	19.1	19.4	19.6	23.5	24.3	25.0	25.9
11. 3 as percentage of 1	3.12	3.62	4.55	4.83	5.35	5.89	5.98	6.28	6.52
12. 3 as percentage of 2	13.30	12.70	16.40	17.00	17.40	19.20	19.70	21.10	22.30
13. Number of students : 1st level[a] [b]	23 835 000	26 144 000	30 063 690	32 291 312	30 147 751	30 483 691	31 330 604	31 721 500	* 31 916 500
14. Number of students : 2nd level[c]	6 538 000	7 167 000	8 948 000	9 576 010	14 288 733	* 14 738 246	* 15 738 416	* 16 694 500	* 17 127 500
15. Number of students : 3rd level	2 116 440	2 250 701	3 047 373	3 377 273	3 860 643	4 174 936	4 494 626	4 950 173	* 5 526 325
16. Teachers per 1 000 students : 1st level[a] [b]	29.47		29.76	29.70	38.06	33.91	33.81	34.87	* 35.53
17. Teachers per 1 000 students : 2nd level[c]	58.84		58.85	* 60.91	45.40	47.10	*47.15	* 47.68	* 48.46
18. Teachers per 1 000 students : 3rd level	115.52	119.14	110.98		80.50	80.00	79.10	77.57	77.63
19. Total population	154 878 000	160 184 000	171 984 000	177 830 000	183 756 000	186 656 000	189 417 000	192 120 000	194 592 000
20. Population aged 5-14	25 050 000	27 996 000	32 976 000	35 132 000	* 37 031 000	* 37 530 000	* 38 012 000	* 38 671 000	39 475 000
21. Population aged 15-19	10 621 000	10 810 000	11 826 000	12 956 000	* 13 739 000	* 14 600 000	* 15 536 000	* 16 287 000	17 052 000
22. Population aged 20-24	11 502 000	11 098 000	10 746 000	11 162 000	* 11 459 000	* 12 000 000	* 12 600 000	* 13 144 000	13 667 000
23. Active population in ISCO groups 0 and 1 (%)						21.2			21.0
24. Active population in ISCO groups 0, 1, 2, 3, (%)						41.2			41.9
25. Energy consumption per capita	7 970	* 8 010	7 759	7 817	8 046	8 278	8 506	8 772	9 201

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a) For the years 1951 to 1959 figures refer to grades I-VIII. Later years refer to grades I-VI and partly to grades VII and VIII, depending on the organization of junior high schools in reporting States - b) Including pre-primary education - c) For the years 1951 to 1959 figures for general education at the second level refer to grades IX-XII; later years refer to grades IX-XII and partly to grades VII and/or VIII, depending on the organization of junior high schools in reporting States.

Argentina

Currency : Pesos (in millions)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. Gross National Product	62 249	129 300	270 600	956 500	1 139 700	1 403 400	1 724 700	2 349 000	3 243 000
2. Total public expenditure	7 842	16 417		87 530	138 947	180 260	171 000	298 128	359 423
3. Total public expenditure on education				a) 19 216	a) 26 165	a) 40 982	a) 45 741	a) 61 606	106 653
4. Of which : Recurring				17 822	24 592	38 501	43 610	58 256	98 926
5. Capital				1 394	1 573	2 481	2 131	3 350	7 727
6. 4 as percentage of 3				92.7	94.0	93.9	95.3	94.6	92.8
7. 5 as percentage of 3				7.3	6.0	6.1	4.7	5.4	7.2
8. Recurring expenditure on 1st level education (% of 4)				59.3	60.1	58.7	56.9	55.4	a) 55.0
9. Recurring expenditure on 2nd level education (% of 4)				24.9	24.6	27.5	31.2	28.5	a) 26.4
10. Recurring expenditure on 3rd level education (% of 4)				15.8	15.3	13.8	11.9	16.1	a) 18.6
11. 3 as percentage of 1				2.01	2.30	2.92	2.65	2.62	3.28
12. 3 as percentage of 2				21.95	18.83	22.73	26.74	20.66	29.67
13. Number of students : 1st level	2 211 953	2 473 405	2 701 654	2 849 071	2 871 820	2 933 045	2 989 542	3 073 752	3 124 870
14. Number of students : 2nd level	332 235	385 983	505 357	575 154	595 293	646 950	688 845	748 891	795 477
15. Number of students : 3rd level	82 531	124 230	159 312	180 796	189 714	192 961	216 888	225 653	243 303
16. Teachers per 1 000 students : 1st level	42.47	42.06	43.14	45.53	46.09	42.33	42.79	49.45	49.18
17. Teachers per 1 000 students : 2nd level	137.78	132.27	125.90	135.63	129.98	143.72	136.36	136.43	139.70
18. Teachers per 1 000 students : 3rd level	54.73	36.73	40.78	47.67	54.40	65.52	62.66	63.38	63.14
19. Total population	17 070 000	18 202 000	19 615 000	20 669 000	21 011 000	21 350 000	21 688 000	22 019 000	22 352 000
20. Population aged 5-14					*4 129 139				4 430 000
21. Population aged 15-19					* 1 794 063				1 980 000
22. Population aged 20-24					* 1 749 948				1 762 000
23. Active population in ISCO groups 0 and 1 (%)				8.6					
24. Active population in ISCO groups 0, 1, 2, 3, (%)				26.9					
25. Energy consumption per capita	770	800	1 085	1 088	1 180	1 194	1 136	1 242	1 341

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1955, 1960, 1964, 1967.

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a) Not including public expenditure relating to aided private education.

Chile

Currency : Escudos (in thousands)

Public Expenditure on Education and Related Data

	1950	1955	1957	1960	1961	1962	1963	1964	1965
1. National Income	127 877	504 000	1 964 400	3 885 000	4 480 000	5 455 000	8 246 000	12 540 000	17 134 000
2. Total public expenditure	24 036	57 000	376 000	1 016 000	1 056 000	1 598 000	1 852 000	2 773 000	4 172 000
3. Total public expenditure on education	a) 2 552		46 716	b) 108 171	179 627	225 433	285 840	432 700	620 035
4. Of which : Recurring	2 552		45 405	100 315	167 627	217 333	258 440	382 700	
5. Capital			1 311	7 856	12 000	8 100	27 400	50 000	
6. 4 as percentage of 3			97,2	92,7	93,3	96,4	90,4	88,4	
7. 5 as percentage of 3			2,8	7,3	6,7	3,6	9,6	11,6	
8. Recurring expenditure on 1st level education (% of 4)			c) 46,5	45,3	35,3	35,1	35,4	35,2	38,6
9. Recurring expenditure on 2nd level education (% of 4)			c) 35,4	22,7	18,0	18,0	17,6	15,9	16,8
10. Recurring expenditure on 3rd level education (% of 4)			c) 17,7	15,8	14,4	15,3	15,9	18,0	17,2
11. 3 as percentage of 1			2,38	2,78	4,01	4,13	3,46	3,45	3,64
12. 3 as percentage of 2			12,42	10,64	17,01	14,13	15,39	15,60	14,86
13. Number of students : 1st level	776 408	928 914	1 067 062	1 179 845	1 217 526	1 245 975	1 305 222	1 358 142	1 524 979
14. Number of students : 2nd level	108 565	129 095	180 946	228 491	242 766	284 420	322 189	342 317	358 545
15. Number of students : 3rd level	e) 9 528		23 237	25 452	26 410	27 184	31 961	36 505	41 000
16. Teachers per 1 000 students : 1st level								e) 28,39	e) 26,34
17. Teachers per 1 000 students : 2nd level									
18. Teachers per 1 000 students : 3rd level				251,55	257,28	341,27	324,09	301,48	
19. Total population	6 073 000	6 462 000	7 137 000	7 689 000	7 858 000	8 029 000	8 217 000	8 391 000	8 591 000
20. Population aged 5-14				1 817 798					
21. Population aged 15-19				724 807					
22. Population aged 20-24				598 599					
23. Active population in ISCO groups 0 and 1 (%)				4,8					
24. Active population in ISCO groups 0, 1, 2, 3, (%)				20,6					
25. Energy consumption per capita	760	910	840	859	928	1 087	1 025	1 078	1 085

a) Recurring expenditure only.
b) Expenditure of Department of Education only.
c) Teacher training at the second level is included with the first level.
d) Percentage calculated on the basis of public education only.
e) 1949.

Colombia

Currency : Pesos (in thousands)

Public Expenditure on Education and Related Data

	1950	1954	1957	1960	1961	1962	1963	1964	1965
1. National Income	5 766 000	10 935 000	14 796 000	21 822 000	25 146 000	28 147 000	35 505 000	44 229 000	48 786 000
2. Total public expenditure	737 000	969 000	1 215 000	1 955 000	2 754 000	2 843 000	5 787 000	4 204 000	4 827 000
3. Total public expenditure on education	82 987	155 565	230 799		740 035	a) 897 614	a) 1 156 615	a) 1 558 234	
4. Of which : Recurring	82 987	154 465	211 909		613 412	837 208	1 066 038	1 516 461	
5. Capital		1 100	18 890		127 291	a) 60 406	a) 90 577	a) 41 773	
6. 4 as percentage of 3	100.0	99.3	91.8		82.8	93.3	92.3	97.3	
7. 5 as percentage of 3		0.7	8.2		17.2	6.7	7.7	2.7	
8. Recurring expenditure on 1st level education (% of 4)	45.0	41.9	45.5		45.6	48.8	55.4	53.8	
9. Recurring expenditure on 2nd level education (% of 4)	24.5	21.8	19.7		20.1	16.7	16.7	22.1	
10. Recurring expenditure on 3rd level education (% of 4)	13.5	8.1	16.4		16.9	25.6	15.6	17.9	
11. 3 as percentage of 1	1.44	1.42	1.56		2.94	3.19	3.26	3.52	
12. 3 as percentage of 2	11.26	16.05	19.00		26.87	31.57	19.99	37.07	
13. Number of students : 1st level	808 494	1 125 550	1 085 150	1 690 361	1 795 413	1 948 772	2 096 408	2 213 425	2 276 954
14. Number of students : 2nd level*	81 963	114 086	158 100	240 226	272 585	312 995	356 780	390 250	429 750
15. Number of students : 3rd level*	10 032	11 996	12 596	22 660	26 639	30 410	33 746	37 462	
16. Teachers per 1 000 students : 1st level	24.13	25.71	25.58	26.57	27.08	27.08	27.39	28.08	27.81
17. Teachers per 1 000 students : 2nd level*	92.98	98.59	86.88	91.96	86.32	82.85	76.95	76.08	77.70
18. Teachers per 1 000 students : 3rd level*	164.09	206.15	118.76	211.09	175.84	174.19	176.45	160.27	
19. Total population	11 554 000	12 765 000	14 028 000	15 416 000	15 468 000	16 417 000	16 941 000	17 485 000	18 020 000
20. Population aged 5-14	1 478 464			3 647 238			3 909 120	3 869 773	
21. Population aged 15-19	547 875			1 452 540			1 568 560	1 766 081	
22. Population aged 20-24	552 425			1 269 550			1 456 219	1 617 579	
23. Active population in ISCO groups 0 and 1 (%)									
24. Active population in ISCO groups 0, 1, 2, 3, (%)	22.3						26.3		
25. Energy consumption per capita	518	425	464	516	479	505	480	496	530

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a) Not including capital expenditure of the municipalities - b) Teacher training at third level is included with second level.

Ecuador
Currency : Sucres (in thousands)

Public Expenditure on Education and Related Data

	1951	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	6 395 000	7 691 000	9 843 000	11 775 000	12 615 000	13 671 000	14 763 000	16 085 000	17 395 000
2. Total public expenditure	1 202 000	1 477 000	1 708 000	2 255 000	2 572 000	2 865 000	2 951 000	3 395 000	3 750 000
3. Total public expenditure on education*	103 700	127 058	200 336	265 197	364 110	b) 337 445	b) 382 627	b) 348 250	610 134
4. Of which : Recurring	98 900		193 034	250 345	322 788	294 235		310 452	526 449
5. Capital	4 800		7 302	14 852	41 322	43 210		37 798	83 685
6. 4 as percentage of 3	95.4		96.4	94.4	88.7	87.2		89.2	86.3
7. 5 as percentage of 3	4.6		3.6	5.6	11.3	12.8		10.8	13.7
8. Recurring expenditure on 1st level education (% of 4)	49.5	c) 50.4	c) 46.9	46.9	45.1	52.4		58.1	41.5
9. Recurring expenditure on 2nd level education (% of 4)	25.3	c) 25.7	c) 29.8		28.3	25.7		21.0	23.1
10. Recurring expenditure on 3rd level education (% of 4)	18.6	c) 20.7	c) 19.9	19.9	22.8	15.6		19.5	35.5
11. 3 as percentage of 1	1.62	1.65	2.04	2.25	2.89	2.47	2.59	2.17	3.51
12. 3 as percentage of 2	8.63	8.60	11.73	11.76	14.16	11.78	12.97	10.26	16.26
13. Number of students : 1st level	352 396	396 862	501 622	596 019	608 814	654 278	697 562	753 997	800 507
14. Number of students : 2nd level	32 395	38 461	52 110	67 118	79 319	86 585	95 978	109 910	117 268
15. Number of students : 3rd level	4 571	5 093	6 646	9 361	10 323	11 035	12 028	12 486	15 595
16. Teachers per 1 000 students : 1st level	25.12	23.82	24.67	25.74	26.22	26.46	26.77	26.78	37.38
17. Teachers per 1 000 students : 2nd level	99.21	94.15	87.39	88.08	85.59	86.70	85.05	81.96	78.71
18. Teachers per 1 000 students : 3rd level	118.57	114.86	120.22	121.24	113.73	120.89	126.70	129.02	116.06
19. Total population	3 329 000	3 534 000	3 984 000	4 352 000	4 501 000	4 655 000	4 814 000	4 979 000	5 150 000
20. Population aged 5-14						1 251 845			
21. Population aged 15-19						435 120			
22. Population aged 20-24						378 530			
23. Active population in ISCO groups 0 and 1 (%)						3.6			
24. Active population in ISCO groups 0, 1, 2, 3, (%)						12.9			
25. Energy consumption per capita	130	120	150	186	186	174	176	195	212

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a) Budget allocation - b) Budget allocation of Central Government only -
c) Including capital expenditure.

Guyana
Currency : Dollars (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income		159 000	198 800	227 600	248 600	250 700	230 800	255 900	275 100
2. Total public expenditure	23 535	29 397	43 073	50 294	57 013	62 364	67 702	69 654	77 641
3. Total public expenditure on education	3 366	3 737	a) 7 727	7 101	b) 7 595	11 064	10 991	11 692	14 146
4. Of which : Recurring	2 978		7 641	7 018	7 595	9 658	10 558	11 447	12 223
5. Capital	388		86	83		1 406	433	245	1 923
6. 4 as percentage of 3	88.5		98.9	98.8		87.3	96.1	97.9	86.4
7. 5 as percentage of 3	11.5		1.1	1.2		12.7	3.9	2.1	13.6
8. Recurring expenditure on 1st level education (% of 4)			65.6	85.5	76.7	65.2	66.4	68.9	71.4
9. Recurring expenditure on 2nd level education (% of 4)			16.5	13.1	23.3	13.8	18.9	10.3	15.3
10. Recurring expenditure on 3rd level education (% of 4)								3.1	2.5
11. 3 as percentage of 1		2.35	3.89	3.12	3.05	4.41	4.76	4.57	5.14
12. 3 as percentage of 2	14.30	12.71	17.90	14.11	13.31	17.74	16.23	16.84	18.22
13. Number of students : 1st level	77 421	88 186	111 176	129 373	134 818	135 784	136 800	152 859	163 566
14. Number of students : 2nd level	1 744	2 818	6 619	10499		9 806	11 288	15 488	17 863
15. Number of students : 3rd level	40	50	58	150	150	224	386	352	255
16. Teachers per 1 000 students : 1st level	23.56	23.73	24.80	24.59	24.89	24.42			30.76
17. Teachers per 1 000 students : 2nd level			28.40	32.67		41.00			32.97
18. Teachers per 1 000 students : 3rd level	100.00	80.00	86.20	60.00		71.40		159.00	
19. Total population	423 000	459 000	515 000	564 000	* 577 000	* 594 000	* 612 000	* 630 000	* 646 000
20. Population aged 5-14	93 655	104 985	126 995	161 051					
21. Population aged 15-19	38 510	40 905	45 180	51 884					
22. Population aged 20-24	34 755	37 070	39 985	42 157					
23. Active population in ISCO groups 0 and 1 (%)				8.5					
24. Active population in ISCO groups 0, 1, 2, 3, (%)				18.9					
25. Energy consumption per capita	270	380	505	566	624	650	492	499	811

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1955, 1960, 1964.

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a) Expenditure of Department of Education only - b) Expenditure of Central Government only.

Paraguay

Currency : Guaranis (in thousands)

Public Expenditure on Education and Related Data

	1950	1954	1957	1960	1961	1962	1963	1964	1965
1. National Income	1 301 000	9 820 000	20 564 000	30 194 000	34 759 000	38 060 000	42 106 000	44 300 000	48 300 000
2. Total public expenditure				2 451 400	2 805 400	3 339 000	4 240 100	4 090 300	4 492 700
3. Total public expenditure on education	13 798	93 588	a) 276 015	b) c) 453 616		642 922		c) 832 935	
4. Of which : Recurring	12 434	85 701		447 218		586 181		802 555	
5. Capital	1 364	7 887		6 398		56 741		30 380	
6. 4 as percentage of 3	90.1	91.6		98.6		91.2		96.4	
7. 5 as percentage of 3	9.9	8.4		1.4		8.8		3.6	
8. Recurring expenditure on 1st level education (% of 4)	66.0	66.1	d) 54.3	54.2		57.1		56.0	
9. Recurring expenditure on 2nd level education (% of 4)	15.5	17.1	d) 16.7	17.5				19.9	
10. Recurring expenditure on 3rd level education (% of 4)	16.4	14.5	d) 17.6	20.0		19.4		18.2	
11. 3 as percentage of 1	1.06	0.95	1.34			1.69		1.88	
12. 3 as percentage of 2						19.25		20.36	
13. Number of students : 1st level	195 607	252 302	283 853	301 711	308 219	* 306 575	330 054	344 637	356 728
14. Number of students : 2nd level	12 105	14 468	15 453	25 496	27 385	29 492	30 206	33 794	
15. Number of students : 3rd level [e]	1 692	2 110	3 329	3 329	3 616	3 759		3 872	4 124
16. Teachers per 1 000 students : 1st level	31.63	32.83	34.97	35.53	35.68	36.59	33.84	33.07	
17. Teachers per 1 000 students : 2nd level	126.10	138.58	136.60	126.80	125.73	124.00	113.79	120.40	
18. Teachers per 1 000 students : 3rd level [e]			140.58	140.60	134.12	147.10			
19. Total population	1 397 000	1 530 000	1 648 000	1 751 000	1 801 000	1 854 000	1 910 000	1 968 000	2 030 000
20. Population aged 5-14				* 398 279		* 512 981			
21. Population aged 15-19				* 192 522		* 191 119			
22. Population aged 20-24				* 164 403		* 145 205			
23. Active population in ISCO groups 0 and 1 (%)						4.0			
24. Active population in ISCO groups 0, 1, 2, 3, (%)						12.9			
25. Energy consumption per capita	20	* 60	62	87	94	97	104	105	126

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1960, 1964, 1967.

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a) Expenditure of Department of Education only - b) Fiscal year of nine months only -
c) Expenditure of Central Government only - d) Including capital expenditure -
e) National University of Asunción only.

Ceylon

Currency : Rupees (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1964	1965
1. National Income	3 752 100	4 375 900	4 947 000	5 916 700	5 941 500	6 160 600	6 804 000	6 941 800
2. Total public expenditure	804 904	796 313	1 433 832	2 016 298	2 103 730	2 179 685	2 437 363	2 500 503
3. Total public expenditure on education	111 000	142 500	a) 206 309	288 970	a) b) 285 974	a) b) 302 778	b) c) 342 195	b) c) 323 172
4. Of which : Recurring	102 300	132 400	192 130	275 870	275 049	292 777	318 056	307 349
5. Capital	8 700	9 600	14 179	13 100	10 925	10 001	24 139	15 823
6. 4 as percentage of 3	92.2	93.3	93.1	95.5	96.2	96.7	92.9	95.1
7. 5 as percentage of 3	7.8	6.7	6.9	4.5	3.8	3.3	7.1	4.9
8. Recurring expenditure on 1st level education (% of 4)	80.7	90.2	88.0	87.1	96.0	92.9	100.0	100.0
9. Recurring expenditure on 2nd level education (% of 4)[c]								
10. Recurring expenditure on 3rd level education (% of 4)	4.0	4.2						
11. 3 as percentage of 1	2.96	3.26	4.17	4.88	4.81	4.91	5.03	4.66
12. 3 as percentage of 2	13.79	17.89	14.39	14.33	13.59	13.89	14.03	12.92
13. Number of students : 1st level[d]	1 357 267	1 613 512	1 872 301	2 239 165	2 325 740	2 365 274	2 611 227	1 810 059
14. Number of students : 2nd level								822 810
15. Number of students : 3rd level	4 276		6 240	6 682	9 025	12 998	15 127	e) 14 446
16. Teachers per 1 000 students : 1st level[d]	28.31	29.47	30.92	32.28	32.57	33.30	35.92	36.15
17. Teachers per 1 000 students : 2nd level								
18. Teachers per 1 000 students : 3rd level	39.28		77.24	77.67	60.83	45.00	41.71 e)	40.42
19. Total population	7 678 000	8 290 000	9 165 000	9 896 000	10 168 000	10 443 000	10 971 000	11 232 000
20. Population aged 5-14	1 833 000	2 006 100	2 233 000	2 422 000	* 2 633 500	* 2 705 600	* 2 777 757	* 2 785 000
21. Population aged 15-19	771 000	703 844	784 000	959 000	* 979 687	* 998 700	* 1 017 700	* 1 142 000
22. Population aged 20-24	727 000	767 472	855 000	859 000	* 864 280	* 872 150	* 880 029	* 952 000
23. Active population in ISCO groups 0 and 1 (%)		4.8				5.2		
24. Active population in ISCO groups 0, 1, 2, 3, (%)		15.7				17.1		
25. Energy consumption per capita	80	120	122	110	111	118	98	114

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1955, 1960, 1964,1967.
For lines 3, 4, 5. Report of the Unesco Seminar. Bangkok, 1967.
For lines 21, 22, 23. 1950 and 1957 : Department of Census and Statistics, Quarterly Bulletin of Statistics, vol. 5, No.2, 1954; vol. 9, No. 2, 1958.
1960 and 1965 : Statistical Abstract of Ceylon. 1964.

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a) Not including expenditure at the third level - b) Expenditure of the Central Government only - c) Not including vocational education at the second level. - d) Including pre-primary education - e) Not including the Technical College.

China (Taiwan)

Currency : New Taiwan Dollars (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income		17 882 000	29 982 000	50 800 000	57 000 000	61 200 000	70 500 000	84 700 000	91 900 000
2. Total public expenditure		3 230 000	7 214 000	12 400 000	13 700 000	15 600 000	16 900 000	18 100 000	20 800 000
3. Total public expenditure on education [a]	156 316	352 964	971 944	1 264 918	1 894 841	2 046 922	2 240 038	2 508 336	3 130 386
4. Of which : Recurring		352 417			1 658 232	1 773 229	1 934 062	2 189 837	2 678 978
5. Capital		547			236 609	273 693	305 976	318 499	451 408
6. 4 as percentage of 3		99.8			87.5	86.6	86.3	87.3	85.6
7. 5 as percentage of 3		0.2			12.5	13.4	13.7	12.7	14.4
8. Recurring expenditure on 1st level education (% of 4)	b)c) 32.5	b) 42.1	c) 39.7	b)c) 43.2	b) 46.0	b) 47.3	44.0	43.0	38.9
9. Recurring expenditure on 2nd level education (% of 4)	c) 35.4	32.5	c) 30.9	c) 29.1	27.1	27.4	28.8	29.3	34.0
10. Recurring expenditure on 3rd level education (% of 4)	c) 15.1	11.8	c) 9.9	c) 11.1	11.9	11.0	12.7	12.7	12.5
11. 3 as percentage of 1		1.97	3.24	2.49	3.32	3.34	3.18	2.96	3.41
12. 3 as percentage of 2		10.92	13.47	10.20	13.83	13.12	13.25	13.86	15.05
13. Number of students : 1st level	906 950	1 060 324	1 480 557	1 888 783	1 997 016	2 097 957	2 148 652	2 202 867	2 257 760
14. Number of students : 2nd level	120 036	157 921	271 681	355 274	409 562	463 364	525 334	594432	663 753
15. Number of students : 3rd level	6 665	11 943	25 619	35 060	38 403	44 314	51 707	64 010	85 346
16. Teachers per 1 000 students : 1st level	23.02	21.72	21.58	21.91	23.32	23.25	24.01	24.07	24.18
17. Teachers per 1 000 students : 2nd level	55.17	48.84	47.60	47.04	44.26	43.07	42.02	40.78	39.62
18. Teachers per 1 000 students : 3rd level	100.82	75.44	131.93	140.38	141.94	131.18	132.94	123.71	112.14
19. Total population	7 619 000	8 261 000	9 851 000	10 612 000	* 10 971 000	* 11 349 000	11 696 000	12 070 000	12 429 000
20. Population aged 5-14	1 892 406	1 948 614	2 377 960		* 3 072 579	* 3 247 290	3 392 241	3 521 570	3 631 804
21. Population aged 15-19	824 701	869 442	957 043		* 930 735	* 931 596	967 257	1 034 519	1 137 819
22. Population aged 20-24	713 276	753 946	742 349		766 973	778 108	786 557	788 979	777 031
23. Active population in ISCO groups 0 and 1 (%)			* 4.9		* 5.4				
24. Active population in ISCO groups 0, 1, 2, 3, (%)			* 17.4		* 19.1				
25. Energy consumption per capita			448	513	531	568	573	595	654

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a) Budget allocation - b) Including pre-primary education - c) Including capital expenditure.

India

Currency : Rupees (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1965
1. National Income	95 300 000	104 800 000	113 900 000	141 400 000	148 000 000	154 000 000	172 100 000	
2. Total public expenditure	6 590 000	7 350 000	11 200 000	14 090 000	15 630 000	19 120 000		
3. Total public expenditure on education [a]	777 600	b) 921 300	2 406 470	3 416 230	3 919 360	4 365 720	4 773 360	
4. Of which : Recurring	609 900	921 300	1 872 780	2 954 000	3 393 540	3 835 130	4 028 420	
5. Capital	167 700		533 690	462 230	525 820	530 590	744 940	
6. 4 as percentage of 3	78.4		77.8	86.5	86.6	87.8	84.4	
7. 5 as percentage of 3	21.6		22.2	13.5	13.4	12.2	15.6	
8. Recurring expenditure on 1st level education (% of 4)	44.8	35.0	35.6	24.7	c) 21.0	24.3	24.9	
9. Recurring expenditure on 2nd level education (% of 4)	19.0	16.2	39.7	41.6	c) 35.8	41.5	44.2	
10. Recurring expenditure on 3rd level education (% of 4)	7.0	6.1	20.3	18.0	c) 15.4	18.6	19.3	
11. 3 as percentage of 1	0.82		2.11	2.42	2.65	2.83	2.77	
12. 3 as percentage of 2	11.80		21.49	24.25	25.08	22.83		
13. Number of students : 1st level	d) 18 677 641	d) 20 812 789	d) 27 370 211	d) 34 163 706	d) 37 630 000	d) 39 760 000	*d) 42 280 000	49 639 000
14. Number of students : 2nd level	5 084 885	6 617 644	8 218 131	10 834 712	12 395 000	13 370 000	15 050 000	
15. Number of students : 3rd level	404 019	554 105	862 075	1 097 241	1 103 341	1 207 511	1 310 000	
16. Teachers per 1 000 students : 1st level	d) 28.80	d) 29.94	d) 26.64	d) 21.70	d) 20.66	d) 20.62	d) 20.41	31.62
17. Teachers per 1 000 students : 2nd level	43.97	42.67	51.70	61.72	60.28	59.64	57.14	
18. Teachers per 1 000 students : 3rd level	60.52	55.06		56.72	62.28	62.19	61.25	
19. Total population	358 293 000	372 753 000	402 222 000	429 016 000	439 002 000	449 640 000	460 487 000	
20. Population aged 5-14					113 936 885			
21. Population aged 15-19					35 866 019			
22. Population aged 20-24					37 316 330			
23. Active population in ISCO groups 0 and 1 (%)					2.7			
24. Active population in ISCO groups 0, 1, 2, 3, (%)					8.0			
25. Energy consumption per capita	100	110	127	140	150	161	170	

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a) Including private expenditure on private education - b) Recurring expenditure only - c) Including capital expenditure - d) A large part of pre-primary education is included with primary education.

Japan

Currency : Yen (in millions)

Public Expenditure on Education and Related Data

	1951	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	4 348 000	5 724 000	8 999 000	12 536 000	14 873 000	16 863 000	19 287 000	21 993 000	24 548 000
2. Total public expenditure	609 800	1 023 000	1 402 000	1 953 000	2 298 000	2 680 000	3 263 000	3 861 000	4 447 000
3. Total public expenditure on education	221 974	327 543	458 724	633 716	768 460	920 582	1 086 067	1 245 062	1 412 750
4. Of which : Recurring	173 961	265 914	370 899	500 672	581 416	683 993	846 861	950 267	1 074 334
5. Capital	48 013	61 629	87 825	133 044	187 044	236 589	239 206	294 795	338 416
6. 4 as percentage of 3	78.4	81.2	80.9	79.0	75.7	74.3	78.0	76.3	76.0
7. 5 as percentage of 3	21.6	18.8	19.1	21.0	24.3	25.7	22.0	23.7	24.0
8. Recurring expenditure on 1st level education (% of 4)	41.0	40.0	31.6	31.2	39.7	38.7	36.8	37.7	37.9
9. Recurring expenditure on 2nd level education (% of 4)	37.4	36.6	30.6	30.2	38.0	39.0	38.4	39.6	39.7
10. Recurring expenditure on 3rd level education (% of 4)	10.6	11.5	11.8	12.4	11.4	11.4	12.6	11.1	11.0
11. 3 as percentage of 1	5.11	5.72	5.10	5.06	5.17	5.46	5.63	5.66	5.76
12. 3 as percentage of 2	36.40	32.02	32.72	32.45	33.44	34.35	33.28	32.25	31.77
13. Number of students : 1st level	11 422 992	11 225 469	12 956 285	12 590 680	11 810 871	11 056 915	10 471 239	10 030 990	9 775 532
14. Number of students : 2nd level	a)7 389 287	a)7 853 282	8 615 828	9 139 460	10 043 589	10 598 728	10 849 907	11 679 192	11 024 512
15. Number of students : 3rd level	421 413	536 087	623 335	699 444	756 921	827 376	916 632	985 077	1 116 430
16. Teachers per 1 000 students : 1st level	b)27.44	b)28.80	27.27	28.80	29.70	30.99	32.70	34.41	35.53
17. Teachers per 1 000 students : 2nd level	b)36.91	b)36.99	39.88	40.55	39.62	39.68	40.70	39.58	42.90
18. Teachers per 1 000 students : 3rd level	105.93	108.00	109.70	107.16	104.38	100.62	99.08	99.65	95.31
19. Total population	84 200 000	86 700 000	90 730 000	93 210 000	94 050 000	94 930 000	95 899 000	96 906 000	97 960 000
20. Population aged 5-14	17 957 000	19 154 000	20 549 000	20 222 173		*19 418 000	*18 530 000	17 637 000	17 032 000
21. Population aged 15-19	8 680 000	8 746 000	9 011 000	9 308 538		* 9 245 000	* 9 843 000	10 360 000	10 852 000
22. Population aged 20-24	7 874 000	8 225 000	8 609 000	8 318 450		* 8 735 000	* 8 967 000	9 397 000	9 068 000
23. Active population in ISCO groups 0 and 1 (%)				7.1			6.7		7.5
24. Active population in ISCO groups 0, 1, 2, 3, (%)				28.0			30.6		32.1
25. Energy consumption per capita	870	960	926	1 166	1 300	1 391	1 532	1 660	1 783

Source: For lines 20, 21 and 22 (1965). Japan Statistical Yearbook 1966.

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a) Not including part-time pupils in vocational education, of whom 556 730 were enrolled in 1954 -

b) Not including part-time teaching staff, of whom, in 1954, there were 2 207 in education at the first level and 33 470 in education at the second level.

Pakistan

Currency: Rupees (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	11 400 000		26 500 000	32 300 000	33 800 000	35 700 000	38 400 000	42 600 000	
2. Total public expenditure				3 780 000	4 220 000	4 893 200	6 127 900	6 919 300	7 973 500
3. Total public expenditure on education [a]	66 000		266 991	310 711	409 486	552 569	649 359	728 491	784 077
4. Of which: Recurring			241 835	281 853	261 971	306 187	350 616	397 531	455 523
5. Capital			25 156	28 858	147 515	246 382	298 743	330 960	328 554
6. 4 as percentage of 3			90.6	90.7	64.0	55.4	54.0	54.6	58.1
7. 5 as percentage of 3			9.4	9.3	36.0	44.6	46.0	45.4	41.9
8. Recurring expenditure on 1st level education (% of 4) [b]			33.0	37.0	42.9	48.1	47.3	47.3	44.2
9. Recurring expenditure on 2nd level education (% of 4)			36.5	25.9	23.8	21.4	23.9	22.2	23.2
10. Recurring expenditure on 3rd level education (% of 4)			16.1	23.9	19.6	17.8	17.8	17.7	19.8
11. 3 as percentage of 1				0.96	1.21	1.54	1.69	1.71	
12. 3 as percentage of 2				8.21	9.70	11.29	10.59	10.52	9.83
13. Number of students: 1st level	3 057 000		4 226 836	5 036 544	5 330 290	5 706 312	6 205 181	6 384 541	6 920 632
14. Number of students: 2nd level	1 178 245		1 345 616	1 514 163	1 607 013	1 818 271	2 118 955	2 439 155	2 622 902
15. Number of students: 3rd level [c]	69 898		113 548	149 116	141 059	176 975	218 577	229 003	274 857
16. Teachers per 1 000 students: 1st level	30.11		27.66	25.89	25.76	26.29	26.26	29.93	26.24
17. Teachers per 1 000 students: 2nd level [d]	37.64		39.87	42.68	41.31	39.71	38.62	35.85	35.04
18. Teachers per 1 000 students: 3rd level [c]						44.42	40.14	42.69	40.24
19. Total population	75 040 000	80 083 000	87 061 000	92 696 000	94 647 000	96 640 000	98 675 000	100 753 000	102 876 000
20. Population aged 5-14					24 456 497				
21. Population aged 15-19					7 438 928				
22. Population aged 20-24					6 896 425				
23. Active population in ISCO groups 0 and 1 (%)					1.8				
24. Active population in ISCO groups 0, 1, 2, 3, (%)					7.9				
25. Energy consumption per capita	40	50	53	68	65	71	83	86	90

Sources: For line 1. Monthly Bulletin of Statistics. United Nations. 1968.
For line 2. Statesman's Yearbook. London, Macmillan. 1960, 1964, 1967.

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a) Budget allocation. - b) Including pre-primary. - c) Including Arts and Science Colleges at the intermediate level. -
d) General education at the second level only.

Belgium

Currency : Francs (in thousands)

Public Expenditure on Education and Related Data

	1951	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	314 000 000	339 800 000	421 400 000	458 300 000	481 200 000	514 700 000	550 800 000	613 100 000	665 100 000
2. Total public expenditure	82 600 000	95 700 000	108 900 000	140 700 000	144 900 000	159 300 000	175 000 000	189 400 000	219 100 000
3. Total public expenditure on education	a) 7 584 003	a) 8 743 564	13 932 000	26 201 000		31 880 566		43 287 771	
4. Of which : Recurring	7 253 003	8 403 474		23 491 000		28 906 566		40 372 385	
5. Capital	331 000	340 090		2 710 000		2 974 000		2 915 386	
6. 4 as percentage of 3	95.6	96.1		89.7		90.7		93.3	
7. 5 as percentage of 3	4.4	3.9		10.3		9.3		6.7	
8. Recurring expenditure on 1st level education (% of 4)	46.3	42.5	b) 37.9	b) 36.5		27.5			
9. Recurring expenditure on 2nd level education (% of 4)	37.8	42.4	b) 46.7	b) 48.9		44.7			
10. Recurring expenditure on 3rd level education (% of 4)	9.4	8.8	b) 7.1	b) 6.0		6.4			
11. 3 as percentage of 1	2.42	2.57	3.31	5.72		6.19		7.06	
12. 3 as percentage of 2	9.18	9.14	12.79	18.62		20.01		22.86	
13. Number of students : 1st level[c]	d) 820 898	d) 878 125	d) 874 586	d) 918 822	d) 926 793	d) 935 512	d) 951 317	967 124	
14. Number of students : 2nd level[c]	376 198	397 341	547 717	650 073	* 686 500	710 300	883 074	769 012	
15. Number of students : 3rd level	e) 20 720	e) 21 999	44 337	52 002	56 472	62 976	68 513	75 489	
16. Teachers per 1 000 students : 1st level[c]		d) 41.22		d) 51.28		d) 46.89	d) 46.51	39.52	
17. Teachers per 1 000 students : 2nd level[c]				* 79.20		f) 82.86	f) 76.38	f) g) 100.50	
18. Teachers per 1 000 students : 3rd level			* 80.0			* 73.15			
19. Total population	8 678 000	8 778 000	8 989 000	9 153 000	9 184 000	9 221 000	9 290 000	9 378 000	9 464 000
20. Population aged 5-14	1 130 249	1 182 524	1 317 577	* 1 404 152	1 425 622	* 1 434 000	1 442 155	1 459 616	
21. Population aged 15-19	604 558	581 905	539 437	* 544 731	605 468	* 633 000	661 587	685 782	
22. Population aged 20-24	652 176	645 804	590 261	* 571 746	551 444	* 556 000	542 165	549 445	
23. Active population in ISCO groups 0 and 1 (%)					10.6				
24. Active population in ISCO groups 0, 1, 2, 3; (%)					32.8				
25. Energy consumption per capita[h]	4 160	3 640	4 225	3 958	4 138	4 410	4 668	4 566	4 724

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a) Expenditure of Central Government only - b) Expenditure of Department of Education only - c) Beginning 1955, grades VII-VIII of primary education are included with general education at the second level (83 662 pupils enrolled in 1955) - d) Including special education - e) Universities and degree-granting institutions only - f) Data referring to teaching staff include staff at non-university institutions providing teacher training and vocational education at the third level - g) Not including teacher training - h) Including Luxembourg.

Czechoslovakia
Currency : Korunas (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. Net Material Product			141 500 000	162 000 000	173 000 000	175 400 000	172 900 000	169 500 000	174 000 000
2. Total public expenditure			97 919 000	103 406 000	111 915 000	123 201 000	125 815 000	130 318 000	116 138 000
3. Total public expenditure on education			5 096 703	6 769 990	6 721 279	7 581 739	8 405 511	8 680 730	9 236 428
4. Of which : Recurring			4 535 018	5 090 154	6 299 873	7 163 131	7 506 589	7 850 893	8 359 048
5. Capital			561 685	1 679 836	421 406	418 608	898 922	829 837	877 380
6. 4 as percentage of 3			89.0	75.2	93.7	94.5	89.3	90.4	90.5
7. 5 as percentage of 3			11.0	24.8	6.3	5.5	10.7	9.6	9.5
8. Recurring expenditure on 1st level education (% of 4)			53.7	52.2[a]	58.3	59.4	40.5		39.2
9. Recurring expenditure on 2nd level education (% of 4)							9.1		8.7
10. Recurring expenditure on 3rd level education (% of 4)			11.7	11.8	13.3	13.1	14.5	15.0	15.2
11. 3 as percentage of 1			3.60	4.18	3.88	4.32	4.86	5.12	5.31
12. 3 as percentage of 2			5.21	6.55	6.01	6.15	6.68	6.66	7.95
13. Number of students : 1st level[b]	1 685 875	1 786 790	1 916 824	2 152 834	2 277 954	2 272 790	2 259 686	2 240 844	2 221 160
14. Number of students : 2nd level[c]	140 631	171 114	285 150	306 148	321 098	362 033	390 379	407 814	398 030
15. Number of students : 3rd level[d]	43 809	46 738	76 141	92 191	110 656	124 282	138 754	141 646	141 687
16. Teachers per 1 000 students : 1st level[b]				40.63	40.30	40.45	40.29	41.79	43.19
17. Teachers per 1 000 students : 2nd level[c]				51.19	49.30	46.54	58.51	63.87	66.42
18. Teachers per 1 000 students : 3rd level[d]		140.63	112.59	113.94	105.78	119.33	98.98	123.05	132.37
19. Total population	12 389 000	12 820 000	13 358 000	13 654 000	13 780 000	13 860 000	13 952 000	14 058 000	14 159 000
20. Population aged 5-14					2 596 423	* 2 582 930	2 555 828	2 519 843	
21. Population aged 15-19					1 061 630	* 1 141 729	1 194 121	1 227 549	
22. Population aged 20-24					874 970	* 919 505	960 499	1 007 905	
23. Active population in ISCO groups 0 and 1 (%)									
24. Active population in ISCO groups 0, 1, 2, 3, (%)									
25. Energy consumption per capita	2 960		4 189	4 755	5 090	5 381	5 632	5 789	5 676

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1960, 1964, 1967.

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a) Including capital expenditure - b) For 1950, 1953 and 1957 data refer to grades I-VIII; and for 1960 onwards to grades I-IX - c) For 1950, 1953 and 1957 data for general education at the second level refer to grades IX-XII, and for 1960 onwards to grades X-XII - d) Including courses for workers but not foreign students.

France

Currency: Francs (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	72 800 000.	114 600 000	164 100 000	227 000 000	244 000 000	272 400 000	300 100 000	327 400 000	346 800 000
2. Total public expenditure	24 500 000	45 100 000	65 000 000	87 400 000	98 500 000	113 700 000	129 800 000	143 900 000	154 300 000
3. Total public expenditure on education [a]	1 196 330	2 360 214	4 534 990	7 194 167	10 388 800	11 387 800	13 968 518	15 557 400	19 890 764
4. Of which: Recurring			3 488 400	5 375 167	8 507 800	9 407 800	b)9 036 967	b)11 129 900	b)12 963 100
5. Capital			1 046 590	1 819 000	1 881 000	1 980 000	b)2 647 300	b) 2 595 500	b) 3 550 000
6. 4 as percentage of 3			76.9	74.7	81.9	82.6	b)77.3	b)81.1	b)78.5
7. 5 as percentage of 3			23.1	25.3	18.1	17.4	b)22.7	b)18.9	b)21.5
8. Recurring expenditure on 1st level education (% of 4) [c]			48.1	48.8	48.3	49.3	36.0	73.5	32.5
9. Recurring expenditure on 2nd level education (% of 4)			d)35.6	29.6	29.3	27.9	37.1		37.9
10. Recurring expenditure on 3rd level education (% of 4)			7.1	10.8	8.3	8.0	e)15.6	e)17.8	e)16.6
11. 3 as percentage of 1	1.64	2.06	2.76	3.17	4.26	4.18	4.65	4.75	5.74
12. 3 as percentage of 2	4.88	5.23	6.98	8.23	10.54	10.01	10.76	10.81	12.89
13. Number of students: 1st level	4 063 249	4 652 331	5 577 900	5 821 500	5 776 672	5 901 664	5 668 214	5 602 303	5 523 827
14. Number of students: 2nd level	1 074 508		f)1 269 108	2 279 900	2 353 570	2 809 165	3 045 440	3 091 190	3 259 276
15. Number of students: 3rd level	139 593	147 396	233 507	272 037	244 814	282 340	386 566	460 373	509 764
16. Teachers per 1 000 students: 1st level		g)45.55		h)34.64	h)35.53	h)i) 35.66	h)42.52	i)31.21	i)33.83
17. Teachers per 1 000 students: 2nd level				f)50.65	f)48.89	f) 41.15	56.60	57.57	58.74
18. Teachers per 1 000 students: 3rd level									
19. Total population	41 736 000	42 652 000	44 311 000	45 684 000	46 163 000	46 998 000	47 854 000	48 411 000	48 919 000
20. Population aged 5-14	5 174 000	6 427 532	7 008 369	7 657 028	*7 657 025	8 238 302		7 835 541	7 816 487
21. Population aged 15-19	3 111 000	2 800 063	2 682 270	2 815 969	*3 131 164	3 327 241		4 040 445	4 291 885
22. Population aged 20-24	3 295 000	3 100 957	3 022 157	2 903 614	*2 816 416	*2 782 508		2 906 798	3 013 418
23. Active population in ISCO groups 0 and 1 (%)						11.3			
24. Active population in ISCO groups 0, 1, 2, 3, (%)						27.0			
25. Energy consumption per capita	2 030	2 330	2 508	2 554	2 508	2 606	2 893	2 933	2 951

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a) Budget allocation - b) Budget allocation of Ministry of Education only - c) Including pre-school education - d) Including other types of education: sports and youth - e) Including scientific research - f) Not including vocational education - g) Data for teaching staff refer to teachers of primary classes (including special classes), infant classes, nursery schools and post-primary courses - h) Included with primary teaching staff is that of pre-primary education - i) Data for teaching staff refer to public education only.

Germany, Federal Republic of a)

Currency : Deutsche Marks (in thousands)

Public Expenditure on Education and Related Data

	1951	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income		112 100 000	168 300 000	229 800 000	251 600 000	271 900 000	289 000 000	316 500 000	341 800 000
2. Total public expenditure	32 650 000	41 200 000	60 500 000	81 900 000	92 000 000	103 300 000	113 000 000	120 700 000	135 300 000
3. Total public expenditure on education	2 928 000	4 304 000	6 280 230	b)8 741 917	9 771 457	10 771 265	11 555 910	13 371 501	15 329 769
4. Of which : Recurring	2 359 000	3 443 000	4 798 976	6 263 600	6 907 336	7 599 284	8 510 519	9 398 890	10 845 770
5. Capital	569 000	861 000	1 481 254	2 478 317	2 864 121	3 171 981	3 045 391	3 972 611	4 483 999
6. 4 as percentage of 3	80.6	80.0	76.4	71.7	70.7	70.6	73.6	70.3	70.7
7. 5 as percentage of 3	19.4	20.0	23.6	28.3	29.3	29.4	26.4	29.7	29.3
8. Recurring expenditure on 1st level education (% of 4)	c)55.0	c)51.3	49.3		47.4	46.9	45.6	45.0	44.4
9. Recurring expenditure on 2nd level education (% of 4)	c)32.8	c)33.9	37.4		35.8	35.1	35.8	35.4	34.6
10. Recurring expenditure on 3rd level education (% of 4)	c) 9.4	c)12.3	10.3	12.3	13.8	15.0	16.1	17.1	18.8
11. 3 as percentage of 1		3.84	3.73	3.80	3.88	3.96	4.00	4.22	4.49
12. 3 as percentage of 2	8.97	10.45	10.38	10.67	10.62	10.43	10.23	11.08	11.33
13. Number of students : 1st level	6 350 993	5 570 914	4 967 086	5 218 304	5 271 976	5 368 381	5 430 230	5 485 810	5 562 061
14. Number of students : 2nd level	3 057 890	3 532 143	3 692 787	3 229 583	3 212 258	3 213 047	3 334 544	3 219 256	3 621 248
15. Number of students : 3rd level	135 678	139 143	222 559	291 226	314 430	347 240	374 350	d) 281 332	372 929
16. Teachers per 1 000 students : 1st level	e)22.49	e)26.04		33.86	34.40	34.26	36.18	35.85	e)30.02
17. Teachers per 1 000 students : 2nd level f	e)38.38	e)36.84	51.27	53.55	54.30	56.07	57.58	61.06	e)43.04
18. Teachers per 1 000 students : 3rd level									
19. Total population	50 531 000	51 386 000	53 649 000	55 401 000	56 227 000	56 947 000	57 607 000	58 290 000	59 041 000
20. Population aged 5-14	7 998 747	7 835 062	7 257 000	7 499 000	7 710 125	7 925 800	7 994 600	8 129 100	
21. Population aged 15-19	3 700 977	4 224 946	4 708 000	4 066 000	3 682 215	3 532 700	3 523 000	3 531 900	
22. Population aged 20-24	3 692 345	3 674 928	3 969 000	4 781 000	4 758 003	4 777 900	4 715 800	4 550 600	
23. Active population in ISCO groups 0 and 1 (%)					10.7				
24. Active population in ISCO groups 0, 1, 2, 3, (%)					30.1				
25. Energy consumption per capita	2 840	2 940	3 631	3 673	3 632	3 889	4 121	4 230	4 234

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a) Including West Berlin - b) Fiscal year of nine months adjusted to twelve months - c) Including capital expenditure - d) Not including engineering schools (Ingenieurschulen) - e) Data for teaching staff refer to full-time only - f) General education at the second level only.

Hungary

Currency: Forints (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. Net Material Product		82 975 000	107 310 000	141 608 000	147 928 000	155 209 000	162 900 000	171 700 000	166 800 000
2. Total public expenditure	20 000 000	49 000 000	51 800 000	67 400 000	75 720 000	83 890 000	88 900 000	91 750 000	97 810 000
3. Total public expenditure on education		*2 943 000	a) 2 474 520	6 214 641	6 694 000	7 246 000	8 104 705	8 790 218	9 088 833
4. Of which: Recurring		2 790 000	2 474 520	5 434 358	6 034 000	6 525 000	7 098 325	7 587 391	7 907 469
5. Capital		153 000		780 283	660 000	721 000	1 006 380	1 202 827	1 181 364
6. 4 as percentage of 3		94.8		87.4	90.1	90.0	87.6	86.3	87.0
7. 5 as percentage of 3		5.2		12.6	9.9	10.0	12.4	13.7	13.0
8. Recurring expenditure on 1st level education (% of 4)			51.8	39.3	31.0	29.7	43.9	40.6	40.7
9. Recurring expenditure on 2nd level education (% of 4)			7.6	9.5	19.2	19.2	14.1	14.7	14.9
10. Recurring expenditure on 3rd level education (% of 4)			12.3	19.0	18.5	18.8	20.0	21.4	22.2
11. 3 as percentage of 1		3.55		4.39	4.53	4.67	4.98	5.12	5.45
12. 3 as percentage of 2		6.01		9.22	8.84	8.64	9.12	9.58	9.29
13. Number of students: 1st level	1 193 198	1 193 337	1 259 114	1 392 260	1 444 543	1 472 743	1 468 683	1 445 124	1 413 512
14. Number of students: 2nd level [b]	c) 91 956	c) 121 625	c) 126 513	155 527	170 933	187 454	210 683	231 308	236 589
15. Number of students: 3rd level	26 509		24 325	29 344	34 526	40 253	45 236	48 810	51 002
16. Teachers per 1 000 students: 1st level	30.43	36.24	42.62	41.15	40.36	40.67	41.87	42.98	43.98
17. Teachers per 1 000 students: 2nd level [b]		c)d) 62.30	c) 63.65	56.44	54.01	51.31	50.46	49.98	50.92
18. Teachers per 1 000 students: 3rd level			204.16		169.87	159.31	153.57	162.63	165.56
19. Total population	9 338 000	9 595 000	9 840 000	9 984 000	10 028 000	10 061 000	10 088 000	10 120 000	10 148 000
20. Population aged 5-14			1 599 000	1 701 605	*1 771 000	*1 787 000	*1 774 000	1 750 000	1 718 000
21. Population aged 15-19			712 000	753 491	* 746 000	* 750 000	* 766 000	780 000	801 000
22. Population aged 20-24			700 000	691 200	* 694 000	* 708 000	* 722 000	738 000	764 000
23. Active population in ISCO groups 0 and 1 (%)				8.4			9.7		
24. Active population in ISCO groups 0, 1, 2, 3, (%)				19.0			20.0		
25. Energy consumption per capita	980		2 008	2 080	2 256	2 293	2 584	2 824	2 812

Sources . For line 2. Statesman's Yearbook. London, Macmillan. 1955, 1960, 1964, 1967.

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a) Recurring expenditure only - b) Not including part-time education - c) Including teacher training; beginning 1960, this has been classified as education at the third level - d) Not including general education at the second level.

Italy

Currency: Lire (in millions)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	6 894 000	10 020 000	13 569 000	16 754 000	18 528 000	20 994 000	24 161 000	26 576 000	28 468 000
2. Total public expenditure		2 695 000	4 006 000	5 299 000	5 660 000	6 693 000	8 071 000	9 101 000	10 671 000
3. Total public expenditure on education		a)b) 242 600	550 800	813 600	983 000	1 231 000	1 440 100	1 607 900	1 845 600
4. Of which: Recurring		242 600	503 600	c) 626 900	837 700	1 021 000	1 191 500	1 323 200	1 531 900
5. Capital			47 200		145 300	210 000	248 600	284 700	313 700
6. 4 as percentage of 3			91.4		85.2	82.9	82.7	82.3	83.0
7. 5 as percentage of 3			8.6		14.8	17.1	17.3	17.7	17.0
8. Recurring expenditure on 1st level education (% of 4)		a) 49.9	47.9	c) 37.4		d) 41.9	46.0	45.5	45.6
9. Recurring expenditure on 2nd level education (% of 4)		a) 28.9	31.8	c) 31.7		d) 40.2	46.1	46.3	46.5
10. Recurring expenditure on 3rd level education (% of 4)		a) 5.9	5.7	c) 11.4		d) 6.3	7.5	7.8	7.7
11. 3 as percentage of 1			4.06	4.86	5.31	5.86	5.96	6.05	6.48
12. 3 as percentage of 2			13.75	15.35	17.37	18.39	17.84	17.67	17.30
13. Number of students: 1st level	4 639 810	4 556 483	4 820 296	4 493 540	4 283 609	4 410 257	4 420 050	4 514 886	4 480 207
14. Number of students: 2nd level	1 123 953	1 402 957	1 692 577	2 194 829	2 388 872	2 530 395	2 743 340	2 886 344	3 058 049
15. Number of students: 3rd level	145 170	229 750	154 638	191 790	205 997	225 796	242 207	261 358	300 940
16. Teachers per 1 000 students: 1st level	36.53	38.81	39.38	44.55	43.01	46.40	46.44	46.31	45.27
17. Teachers per 1 000 students: 2nd level	59.28	85.71	81.97	85.52	82.41	86.81	82.77	79.54	80.76
18. Teachers per 1 000 students: 3rd level	66.58		89.34	89.53	106.32	83.87	96.58	92.86	86.57
19. Total population	46 769 000	47 604 000	48 743 000	49 642 000	49 903 000	50 242 000	50 641 000	51 119 000	51 576 000
20. Population aged 5-14				8 230 000	8 208 867	8 179 000		8 145 000	
21. Population aged 15-19				3 665 000	3 781 432	3 862 000		4 114 000	
22. Population aged 20-24				4 087 000	4 063 669	4 044 000		3 981 000	
23. Active population in ISCO groups 0 and 1 (%)						}	23.4	}	24.9
24. Active population in ISCO groups 0, 1, 2, 3, (%)									
25. Energy consumption per capita	630	870	915	1 135	1 221	1 418	1 570	1 659	1 787

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a) Expenditure of Department of Education only - b) Recurring expenditure only -
c) Expenditure of Central Government only - d) Including capital expenditure

Poland

Currency : Zlotys (in thousands)

Public Expenditure on Education and Related Data

	1950	1954	1957	1960	1961	1962	1963	1964	1965
1. Net Material Product		200 000 000	301 400 000	375 500 000	410 700 000	426 100 000	460 100 000	497 000 000	536 800 000
2. Total public expenditure		116 500 000	153 180 000	200 115 000	233 500 000	249 800 000	251 200 000	273 800 000	288 200 000
3. Total public expenditure on education		9 510 300	12 781 500	17 409 500	19 643 700	21 792 600	23 715 200	25 377 900	27 041 000
4. Of which : Recurring		8 445 700	11 250 200	14 865 700	16 792 100	18 616 700	20 137 600	21 715 400	23 110 500
5. Capital		1 064 600	1 531 300	2 543 800	2 851 600	3 175 900	3 577 600	3 662 500	3 930 500
6. 4 as percentage of 3		88.8	88.0	85.4	85.5	85.4	84.9	85.6	85.5
7. 5 as percentage of 3		11.2	12.0	14.6	14.5	14.6	15.1	14.4	14.5
8. Recurring expenditure on 1st level education (% of 4)		22.0	28.6	33.8	31.8	30.5	29.8	29.6	29.4
9. Recurring expenditure on 2nd level education (% of 4)		a) 29.6	19.6	15.8	16.6	16.8	17.5	18.2	17.9
10. Recurring expenditure on 3rd level education (% of 4)		24.2	21.7	19.3	21.8	23.2	23.4	23.1	23.2
11. 3 as percentage of 1		4.75	4.24	4.63	4.78	5.11	5.15	5.10	5.03
12. 3 as percentage of 2		8.16	8.34	8.69	8.41	8.72	9.44	9.27	9.38
13. Number of students : 1st level	3 281 836	3 202 675	3 936 276	4 841 157	5 007 821	5 117 319	5 181 679	5 207 936	5 176 588
14. Number of students : 2nd level	557 414	529 678	571 679	814 187	948 958	1 088 040	1 227 976	1 661 657	1 788 628
15. Number of students : 3rd level	117 506	127 572	162 680	111 342	113 711	123 191	131 599	b) 231 224	b) 251 864
16. Teachers per 1 000 students : 1st level	25.38	31.38	c) 30.96	30.54	30.67	32.35	32.88	33.88	35.31
17. Teachers per 1 000 students : 2nd level	52.10	58.02		71.33	50.64	92.30	60.39	75.97	
18. Teachers per 1 000 students : 3rd level			c) 123.51	c) 171.53	c) 168.55	c) 161.70	c) 160.21	b) c) 93.23	b) c) 91.60
19. Total population	24 824 000	26 761 000	28 310 000	29 703 000	29 965 000	30 324 000	30 691 000	31 161 000	31 496 000
20. Population aged 5-14	4 281 060		5 480 450	6 554 702	*6 653 300	*6 802 500	6 956 000	6 978 400	6 941 600
21. Population aged 15-19	2 387 568		2 164 600	1 924 700	*1 995 600	*2 164 400	2 524 000	2 648 300	2 892 100
22. Population aged 20-24	2 102 461		2 342 100	1 950 701	*2 183 500	*2 110 500	2 021 000	2 006 100	1 938 000
23. Active population in ISCO groups 0 and 1 (%)								7.4	
24. Active population in ISCO groups 0, 1, 2, 3, (%)								10.4	
25. Energy consumption per capita	2 490		2 930	3 097	3 179	3 273	3 440	3 518	3 504

Sources: For line 2. Statesman's Yearbook. London, Macmillan, 1960, 1964, 1967.
For lines 20, 21 and 22 (1963 only). MAY ROCZNIK STATYSTYCZNY, 1965.

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a) Including courses for workers and correspondence courses - b) Including evening and correspondence courses -
c) Data for teaching staff refer to full-time only.

Romania
Currency : Lei (in thousands)

Public Expenditure on Education and Related Data

	1950	1954	1957	1959	1961	1962	1963	1964	1965
1. Net Material Product									
2. Total public expenditure		38 352 000	43 854 000	48 260 000	63 726 000	73 106 000	77 650 000	87 064 000	92 998 000
3. Total public expenditure on education		2 094 200	2 969 900	3 339 400	4 849 000	5 640 100	6 171 000	6 786 000	7 218 000
4. Of which : Recurring		1 912 100	2 839 900	3 096 400	4 244 000	5 011 100	5 501 100	6 049 000	6 533 000
5. Capital		182 100	130 000	243 000	605 000	629 000	670 000	737 000	685 000
6. 4 as percentage of 3		91.3	95.6	92.7	87.5	88.8	89.1	89.1	90.5
7. 5 as percentage of 3		8.7	4.4	7.3	12.5	11.2	10.9	10.9	9.5
8. Recurring expenditure on 1st level education (% of 4)		a) 74.2	53.5	58.7	68.6	68.3	67.5	69.0	70.6
9. Recurring expenditure on 2nd level education (% of 4)									
10. Recurring expenditure on 3rd level education (% of 4)		21.0	16.3	14.9	14.7	15.0	15.5	15.9	15.7
11. 3 as percentage of 1									
12. 3 as percentage of 2		5.46	6.77	6.92	7.61	7.71	7.95	7.79	7.76
13. Number of students : 1st level[b]	1 777 987	1 612 081	c) 1 818 979	c) 2 135 403	c) 2 539 867	d) 2 694 441	d) 2 681 719	d) 2 991 612	d) 2 987 240
14. Number of students : 2nd level[b c]	284 378	248 110	283 316	358 673	501 529	593 720	647 330	611 103	643 719
15. Number of students : 3rd level[c]	53 007	78 711	80 919	63 208	83 749	98 929	112 611	123 284	130 614
16. Teachers per 1 000 students : 1st level[b]	37.65	49.12	c) 46.16	c) 41.19	c) 38.89	d) 39.29	d) 41.38	d) 41.02	d) 42.93
17. Teachers per 1 000 students : 2nd level[b c]	65.64	68.84	52.85	54.04	51.14	47.29	44.47	47.50	48.87
18. Teachers per 1 000 students : 3rd level[c]			111.00	128.80	123.70	108.69	106.25	101.11	99.82
19. Total population	16 311 000	17 040 000	17 829 000	18 226 000	18 567 000	18 681 000	18 813 000	18 927 000	19 027 000
20. Population aged 5-14						*3 554 816	*3 621 589	3 621 777	3 570 870
21. Population aged 15-19						*1 332 734	*1 346 462	1 424 133	1 546 322
22. Population aged 20-24						*1 495 591	*1 447 326	1 387 362	1 330 193
23. Active population in ISCO groups 0 and 1 (%)			e) 7.5						
24. Active population in ISCO groups 0, 1, 2, 3, (%)			e) 11.4						
25. Energy consumption per capita	460		1 193	1 322	1 450	1 662	1 801	1 863	2 035

Sources : For Line 2. Statesman's Yearbook. London, Macmillan, 1960, 1964, 1967

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a) Including special and adult education - b) From 1964 data for primary education refer to grades I-VIII, prior to this date they refer to grades I-VII. Data for general education at the second level refer to grades IX-XI from 1964 and for earlier years to grades VIII-XI - c) Including evening and correspondence courses - d) Including correspondence courses - e) 1956.

Sweden

Currency : Kronor (in thousands)

Public Expenditure on Education and Related Data

	1950	1954	1958	1960	1961	1963	1964	1965
1. National Income	26 833 000	38 788 000	50 638 000	57 442 000	62 572 000	72 563 000	80 775 000	88 283 000
2. Total public expenditure	6 315 000	10 035 000	15 359 000	17 429 000	19 054 000	24 433 000	27 257 000	31 388 000
3. Total public expenditure on education	932 000	1 742 000	2 579 000	3 086 700	3 506 500	5 140 000	5 800 000	6 620 000
4. Of which : Recurring		1 414 000	2 181 900	2 623 600	2 937 600	4 200 000	4 660 000	5 240 000
5. Capital		328 000	397 100	463 100	568 900	940 000	1 140 000	1 380 000
6. 4 as percentage of 3		81.2	84.6	85.0	83.8	81.7	80.3	79.2
7. 5 as percentage of 3		18.8	15.4	15.0	16.2	18.3	19.7	20.8
8. Recurring expenditure on 1st level education (% of 4)	a) 64.8	59.9	54.9	52.0	50.6	45.2	41.2	40.1
9. Recurring expenditure on 2nd level education (% of 4)	a) 26.9	18.8	22.3	30.1	25.2	26.9	23.6	22.9
10. Recurring expenditure on 3rd level education (% of 4)	a) 4.6	5.7	6.8	8.1	8.6	9.0	9.6	9.2
11. 3 as percentage of 1	3.48	4.49	5.09	5.37	5.60	7.08	7.18	7.50
12. 3 as percentage of 2	14.79	17.36	16.79	17.71	18.40	21.04	21.28	21.09
13. Number of students : 1st level[b]	707 105	848 360	804 360	807 999	804 460	816 796	648 094	636 884
14. Number of students : 2nd level[c]	237 620	297 730	359 501	399 178	410 020	409 931	584 029	609 426
15. Number of students : 3rd level	d) 16 887	d) 22 413	d) 30 113	d) 36 909	d) 40 184	50 168	61 222	71 413
16. Teachers per 1 000 students : 1st level[b]	e) 52.12	e) 50.71	54.17	52.65	53.56	71.83		47.10
17. Teachers per 1 000 students : 2nd level[c]				f) 72.36	f) 73.50	f) 90.62	f) 87.12	f) 95.06
18. Teachers per 1 000 students : 3rd level		d) 53.72	d) 52.34	d) 49.80	d) 48.13	45.77		
19. Total population	7 014 000	7 213 000	7 409 000	7 480 000	7 520 000	7 604 000	7 661 000	7 734 000
20. Population aged 5-14	1 041 787	1 167 422	1 202 348	1 143 675	* 1 132 715	1 092 082		1 064 578
21. Population aged 15-19	416 290	435 216	506 694	594 282	* 610 096	641 481		625 825
22. Population aged 20-24	459 309	435 763	439 192	466 245	* 473 245	519 460		593 793
23. Active population in ISCO groups 0 and 1 (%)				15.0				
24. Active population in ISCO groups 0, 1, 2, 3, (%)				33.0				
25. Energy consumption per capita	3 220	3 760	2 971	3 491	3 471	3 950	4 320	4 506

Sources : For lines 23 and 24. ILO Yearbook of Labour Statistics ; OECD Statistics of the occupational and educational Structure of the Labour Force in Fifty-three Countries, 1968.

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a) Including capital expenditure - b) Data for 1950 to 1963 include secondary classes attached to primary schools ; beginning 1964, reorganization of the school system - c) Data for 1950 to 1963 exclude secondary classes attached to primary schools ; beginning 1964, reorganization of the school system - d) Universities and degree-granting institutions only - e) Data for teaching staff refer to public education only - f) General education at the second level only.

United Kingdom

Currency : Pounds (in thousands)

Public Expenditure on Education and Related Data

	1950	1953	1957	1960	1961	1962	1963	1964	1965
1. National Income	10 639 000	13 776 000	17 831 000	20 834 000	22 298 000	23 259 000	24 710 000	26 593 000	28 279 000
2. Total public expenditure	3 335 000	4 578 000	5 425 000	6 478 000	7 090 000	7 610 000	8 093 000	8 506 000	9 386 000
3. Total public expenditure on education	a) b) 327 820	a) b) 432 320	707 264		1 168 463	1 311 852	1 460 321	1 593 881	1 819 192
4. Of which : Recurring	a) 327 820	a) 432 320	621 482		900 871	1 003 253	1 119 282	1 207 869	1 410 706
5. Capital			85 782		267 592	308 599	341 039	386 012	408 486
6. 4 as percentage of 3			87.9		77.1	76.5	76.6	75.8	77.5
7. 5 as percentage of 3			12.1		22.9	23.5	23.4	24.2	22.5
8. Recurring expenditure on 1st level education (% of 4)	c) 28.4	c) 28.4			28.3	28.0	26.6	c) 24.9	25.0
9. Recurring expenditure on 2nd level education (% of 4)	c) 21.4	c) 21.3			39.1	38.8	38.5	c) 38.7	38.3
10. Recurring expenditure on 3rd level education (% of 4)					13.8	15.3	18.9	c) 20.3	21.8
11. 3 as percentage of 1			3.97		5.24	5.64	5.91	5.99	6.43
12. 3 as percentage of 2			13.04		16.48	17.24	18.04	18.74	19.38
13. Number of students : 1st level	4 801 354	5 423 739	5 445 389	5 084 262	c) 4 505 987	5 126 486	5 215 545	5 306 821	5 416 926
14. Number of students : 2nd level	2 237 881		4 284 967	5 029 783	4 838 489	5 058 474	5 074 969	5 079 435	5 121 399
15. Number of students : 3rd level d	133 796	112 065	147 093	168 759	189 260	208 715	211 023	225 960	c) 237 530
16. Teachers per 1 000 students : 1st level e	33.52	31.98	39.73	41.89	c) 42.33	41.04	41.04	42.77	43.18
17. Teachers per 1 000 students : 2nd level e	f) 49.98		38.16	41.29		43.66	45.05		
18. Teachers per 1 000 students : 3rd level									
19. Total population	50 616 000	50 862 000	51 632 000	52 559 000	52 941 000	53 458 000	53 797 000	54 213 000	54 595 000
20. Population aged 5-14		* 7 572 000	8 053 802	* 8 086 000	8 122 927	* 8 036 307	* 7 885 007	* 7 898 000	7 912 100
21. Population aged 15-19		* 3 190 000	3 289 158	* 3 547 000	3 695 029	* 4 022 938	* 4 211 583	* 4 273 000	4 281 700
22. Population aged 20-24		* 3 299 000	3 251 406	* 3 298 000	3 305 044	* 3 359 958	* 3 478 682	* 3 561 000	3 626 200
23. Active population in ISCO groups 0 and 1 (%)					11.2				
24. Active population in ISCO groups 0, 1, 2, 3, (%)					33.5				
25. Energy consumption per capita	4 420	4 530	4 775	4 707	4 902	4 929	5 090	5 079	5 151

Sources : Lines 20, 21 and 22 for 1953, 1960 and 1964. Annual Abstract of Statistics. 1953, 1956, 1964.

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a) Not including expenditure at the third level for England and Wales - b) Recurring expenditure only - c) Not including Scotland - d) Universities and degree-granting institutions and teacher-training colleges only - e) The teaching staff of senior departments of all-age schools are included with education at the first level in England and Wales - f) General education at the second level only.

U.S.S.R.

Currency : Roubles (in thousands)

Public Expenditure on Education and Related Data

	1950	1955	1960	1961	1962	1963	1964	1965
1. Net Material Product		98 500 999	145 000 000	152 900 000	164 600 000	168 800 000	181 300 000	192 600 000
2. Total public expenditure	41 323 700	53 950 000	73 126 200	76 309 000	82 200 000	86 999 000	92 230 000	101 621 000
3. Total public expenditure on education [a]	4 870 000	5 440 000	8 541 000	9 228 000	10 040 000	10 839 000	11 850 000	14 033 000
4. Of which : Recurring			6 819 000	7 413 000	8 128 000	8 853 000	9 699 000	11 658 000
5. Capital			1 722 000	1 815 000	1 912 000	1 986 000	2 151 000	2 375 000
6. 4 as percentage of 3			79.8	80.3	81.0	81.7	81.8	83.1
7. 5 as percentage of 3			20.2	19.7	19.0	18.3	18.2	16.9
8. Recurring expenditure on 1st level education (% of 4)								61.7
9. Recurring expenditure on 2nd level education (% of 4)								
10. Recurring expenditure on 3rd level education (% of 4)								12.0
11. 3 as percentage of 1		5.52	5.89	6.04	6.10	6.42	6.54	7.29
12. 3 as percentage of 2	11.78	10.08	11.68	12.09	12.21	12.46	12.85	13.81
13. Number of students : 1st level [b]	31 701 942	22 847 634	30 000 000	31 300 000	35 600 000	36 843 500	37 581 000	38 343 000
14. Number of students : 2nd level [b] [c]	2 793 627	7 213 456	5 359 468	6 769 700	5 367 700	6 400 800	7 508 000	8 459 300
15. Number of students : 3rd level [d]	1 247 382	1 866 994	2 395 545	2 639 900	2 943 700	3 260 700	3 608 000	3 860 500
16. Teachers per 1 000 students : 1st level [b]	32.05	43.28	40.63	40.38	37.66	37.32	37.70	37.79
17. Teachers per 1 000 students : 2nd level [b] [e]	53.74	50.84	61.21	46.82	68.89	60.27	55.24	52.29
18. Teachers per 1 000 students : 3rd level [d]								52.06
19. Total population	181 050 000	196 150 000	214 000 000	218 000 000	221 465 000	224 764 000	227 687 000	230 600 000
20. Population aged 5-14			* 41 559 000					
21. Population aged 15-19			* 12 831 000					
22. Population aged 20-24			* 21 625 000					
23. Active population in ISCO groups 0 and 1 (%)								
24. Active population in ISCO groups 0, 1, 2, 3, (%)								
25. Energy consumption per capita		2 240	2 832	2 893	3 029	3 234	3 430	3 611

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1955, 1960, 1964, 1967.

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a) State budgets only - b) Prior to 1962, figures for primary education refer to grades I-VII, beginning 1962, to grades I-VIII. For general education at the second level figures prior to 1962, refer to grades VIII-XI, beginning 1962, to grades IX-XI - c) Vocational education at the second level includes evening and correspondence courses - d) Including correspondence courses - e) Data refer to general education at the second level only.

Yugoslavia
Currency : Dinars (in millions)

Public Expenditure on Education and Related Data

	1952	1957	1960	1961	1962	1963	1964	1965
1. Net Material Product	854 000	1 829 000	2 686 000	3 110 000	3 471 000	4 199 000	5 588 000	7 347 000
2. Total public expenditure	* 312 686	400 219	727 380	942 143	1 052 042	1 049 425	1 267 397	* 1 577 886
3. Total public expenditure on education		41 969	73 294	a) 99 000	180 000	186 000	268 000	343 000
4. Of which : Recurring	19 672	40 671	72 128	99 000	179 000	170 000	217 000	299 000
5. Capital		1 298	1 166		1 000	16 000	51 000	44 000
6. 4 as percentage of 3		96.9	98.4		99.4	91.4	81.0	87.2
7. 5 as percentage of 3		3.1	1.6		0.6	8.6	19.0	12.8
8. Recurring expenditure on 1st level education (% of 4)		57.4	58.3			55.3	53.9	54.8
9. Recurring expenditure on 2nd level education (% of 4)		19.1	19.3			25.9	27.2	27.4
10. Recurring expenditure on 3rd level education (% of 4)		14.8	16.1			17.1	17.5	16.4
11. 3 as percentage of 1		2.29	2.73		5.19	4.43	4.80	4.67
12. 3 as percentage of 2		10.49	10.08		17.11	17.72	21.14	21.74
13. Number of students : 1st level	b) 1 847 098	2 315 909	2 764 369	2 895 694	2 960 199	2 980 220	2 972 225	2 945 520
14. Number of students : 2nd level[c]	b) 240 401	167 286	362 540	403 322	448 169	503 427	571 227	611 271
15. Number of students : 3rd level	b) 78 969	83 302	141 058	158 418	160 092	160 595	170 499	184 923
16. Teachers per 1 000 students : 1st level	b) 26.75	31.00	30.49	30.95	31.56	32.34	33.81	34.65
17. Teachers per 1 000 students : 2nd level[c]	b) 56.97	77.33	76.02	63.13	56.33	51.28	48.14	43.00
18. Teachers per 1 000 students : 3rd level	b) 83.26	87.31	73.76	79.06	86.14	93.42	92.37	85.22
19. Total population	16 798 000	17 859 000	18 402 000	18 607 000	18 837 000	19 065 000	19 279 000	19 508 000
20. Population aged 5-14	3 142 640	3 360 000		3 833 944				
21. Population aged 15-19	1 804 343	1 617 000		1 378 092				
22. Population aged 20-24	1 678 178	1 750 000		1 581 536				
23. Active population in ISCO groups 0 and 1 (%)				6.7				
24. Active population in ISCO groups 0, 1, 2, 3, (%)				13.2				
25. Energy consumption per capita	380	710	875	903	926	1 028	1 138	1 192

Sources : For line 2. Statesman's Yearbook. London, Macmillan, 1955, 1964, 1967.

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a) Recurring expenditure only - b) 1953 - c) Data for general education at the second level refer to grades IX-XII; vocational education excludes apprenticeship schools, schools of practical training and of fine arts.

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ANNEX II

Name of country: ....

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UNITED NATIONS EDUCATIONAL, SCIENTIFIC
AND CULTURAL ORGANIZATION

Questionnaire on Statistics of Educational Finance and Expenditure, 1966

(STE/Q/672)

1. This questionnaire, designed to collect statistical data for Unesco publications, is sent to you in three copies. Two of these copies are for your working purposes. You are requested to enter on one copy of the questionnaire as much of the data as you are able to supply and return it, if possible, not later than ....to the following address:

   Unesco,
   Statistical Office,
   Place de Fontenoy,
   Paris 7^e (France)

2. Data are requested on receipts and expenditures for education by all public (government) authorities and private bodies preferably for the fiscal year beginning in 1966. Table 1 asks for data on the source of educational funds both public and private. Tables 2 and 4 ask for data on the expenditure of these funds. The breakdown of the expenditure by public authorities on public education, by public authorities on private education, and by private sources should be shown in Tables 2 and 4 separately in the appropriate columns. Table 3 asks for some general financial data. Please refer to your reply to our previous questionnaire on the statistics of educational finance (Unesco/SS/6-2661), issued in October 1966 in which you will find data for the year 1965 reported earlier by you.

3. Data in Tables 2 and 4 should be based on expenditures according to closed accounts, if possible. Where such information is not available, estimates may be given based on final budget figures but this should be clearly stated in the appropriate place. Where detailed figures are not available please give the totals for each section or table.

4. The definitions recommended by Unesco are given at the foot of this page and the examples of the type of expenditure to be included are given in the tables. Where your data are based on different definitions, please indicate the basis of your data in a note.

5. In completing the questionnaire please distinguish between the situation where no data are available, and the situation where the figure is nil or negligible. The following symbols are recommended for your use:

   Date not available ...
   Provisional or estimated *
   Quantity nil or negligible –

6. The questionnaire was completed by (name and address of agency):

____

____

____

The following definitions recommended for use in this questionnaire are taken from: " Recommendation concerning the international standardization of educational statistics " adopted by the General Conference of Unesco at its tenth Session, Paris, 3 December 1958.

Receipts refer to cash received by or made available to or for schools, including appropriations, subventions, fees, cash value of property received as gifts, etc.

Expenditure refers to financial charges incurred by or on behalf of schools for goods and services.

Recurring expenditure includes all expenditures except those for capital outlay and debt services.

Capital expenditure refers to expenditures for land, buildings, equipment, etc.

Debt service refers to the payment of interest and the repayment of the principal of loans.

Fiscal year began on ....(month) 1966

Monetary unit used for the tables is: - Units, Hundreds, Thousands, Millions of .... (please tick)

Table 1. EDUCATIONAL FINANCE BY SOURCE, 1966 Budget Allocation and Actual Expenditure

Source of Receipts	Fiscal year beginning in 1966	
	Budget Allocation	Actual Expenditures
A. PUBLIC SOURCES		
1. Central or Federal Government Departments dealing with education		
(a) Education Departments		
(b) Other government departments - Labour, Agriculture, etc., (education sections only)		
2. Provincial or State authorities dealing with education		
3. County, city, district or other local authorities.		
4. Foreign aid (received).		
B. PRIVATE SOURCES		
1. Tuition fees		
2. Other private receipts from parents		
3. Private gifts, endowments etc.		
4. Other private sources (please specify)		
TOTAL		

Table 2. EDUCATIONAL EXPENDITURE BY PURPOSE 1966 - public and private

Purpose of Expenditure
A. RECURRING EXPENDITURE . . . .
1. Administration, including central government and local authorities . . . . .
2. For Instruction . . . .
(a) Salaries to teachers and other directly supportive professional staff . . .
(b) School texbooks . . . .
(c) Other instructional expenditure, consumable materials and supplies etc. . .
3. Other Recurring Expenditure . . . .
(a) Scholarships and grants : i. For studies in the country . . . .
ii. For studies abroad. . . . .
(b) Welfare services, canteens, transport, boarding, sport . . . .
(c) Maintenance of buildings and equipment . . . .
(d) Operations of buildings (fuel, light, water and gas). . . . .
(e) Other recurring expenditure (please specify) . . . .
B. CAPITAL EXPENDITURE . . . .
1. Purchase and development of land . . . .
2. School building, classrooms, laboratories and fixed equipment . . . . . .
3. Other durable instructional equipment, tools, microscopes, television, etc. . .
4. Welfare facilities, residence halls, sport installation, etc. . . . .
5. Other capital expenditure (please specify) . . . .
C. DEBT SERVICE . . . .
GRAND TOTAL

Table 3. ADDITIONAL DATA FOR 1966

1. Gross National Product at current market prices.

(If this national aggregate is not available for your country please give any other available national aggregate (or an estimate), i.e.: Gross Domestic Product, or National Income, or Net Material Product and indicate which concept is used).

2. Total public expenditure (For ALL MINISTRIES AND SERVICES at all government levels)

3. If some part of the total expenditure on education is missing from Tables 1 and 2 e.g. other Ministries, private funds, community self-aid etc., please estimate the approximate percentage of the total amount spent on education in your country that *is covered* by this questionnaire by ticking the appropriate box: -

It is estimated that this questionnaire covers about:

☐ less than 50 % ☐ 51-60 % ☐ 61-70 % ☐ 71-80 % ☐ 81-90 % ☐ above 90 %

of the total amount from all sources spent on education

4. Please indicate what types and sectors of educational expenditure are missing:

....

....

....

Public Expenditure		Private Expenditure	Notes
On Public Education	On Private Education		

Table 4. EXPENDITURE BY LEVEL AND TYPE OF EDUCATION, 1966 - Public and Private Education

Level and type of education	Expenditure on Public Education (Table 2 col. 1)			Enrolment covered by figures	Expenditure on Private Education				Enrolment covered by figures
					From public funds (Table 2 col. 2)		From private funds (Table 2 col. 3)		
	Total recurring incl. teachers' salaries	Teachers' salaries only (Table 2 line A2a)	Capital		Recurring	Capital	Recurring	Capital	
Preceding the first level (Pre-primary)									
First level (Primary).									
Second level (Secondary)									
General									
Vocational (and technical)									
Teacher training (usually for teaching at the first level)									
Third level (Higher)									
University (or equivalent degree granting) . . .									
Non-university (post secondary but not leading to an academic degree or equivalent award) . . .									
Teacher training									
Other									
Special (for the handicapped on maladjusted) . . .									
Adult (general or vocational at first or second level)									
Other types.									
(please specify)									
Administration not allocated by level									
TOTAL									

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